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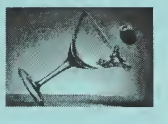
Massachusetts

Behavioral Risk Factor Survey

1993 Summary Report



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July 1995

Massachusetts Behavioral Risk Factor Survey 1993 Summary Report

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July 1995

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We wish to express our gratitude to the residents of Massachusetts who participated in this survey.

Additional information concerning the Behavioral Risk Factor Surveillance System and copies of this report may be obtained from:

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Executive Summary

Since 1986, Massachusetts has conducted the Behavioral Risk Factor Surveillance System (BRFSS), a representative, state-wide telephone survey of Massachusetts residents 18 years and older. In 1993, 1,581 interviews were conducted which target key health risk behaviors. In addition, an over-sample of 276 black non-Hispanics and Hispanics was conducted in order to obtain more stable health risk estimates by race and ethnicity.

The BRFSS is also conducted by all other states in the nation under the coordination of the national Centers for Disease Control and Prevention. A summary of the 1993 statewide prevalence and national BRFSS prevalence estimates is shown in Table 1.

Massachusetts fared better than other BRFSS states in

- prevalence of overweight
- prevalence of cholesterol screening
- medical insurance coverage
- digital-rectal exams among people over 40
- mammography and breast physical exams among women 40 and older.

Massachusetts was about the same as other BRFSS states in

- prevalence of cigarette use
- driving after drinking
- receiving influenza vaccinations
- high blood pressure screening
- proctoscopic exams among people over 40
- cervical and colo-rectal cancer screening.

Areas in which Massachusetts fared worse compared to other BRFSS states included

- prevalence of seat belt use
- use of child safety seats
- riding with a drinking driver
- chronic drinking
- binge drinking
- receiving pneumonia vaccinations.

While Massachusetts fares well on many health risks in comparison to other states, citizens of the Commonwealth continue to engage in some health risk behaviors at levels above the national goals for the Year 2000. But perhaps of more concern than the general picture are the health risk profiles within certain subpopulations. Younger adults (below age 35), individuals with less than a high school education, and those with household incomes below $15,000 incur disproportionately higher risks of premature death, disability, and extensive hospitalization costs as indicated by elevated prevalence estimates for these groups.

Programs which encourage primary disease prevention and health promotion and develop creative and culturally-sensitive approaches to health promotion are being implemented by the state. These programs have achieved successes, but much remains to be done.

Table 1.

Comparison of the prevalence of selected behavioral risk factors and preventive health measures between Massachusetts and other participating states (BRFSS 1993)

	Massachusetts Prevalence	National BRFSS Prevalence
	%	%
Does not use seat belt regularly	44	21
Does not use child safety belt/seat for child under 15 years	18	14
Current cigarette smoker	21	22
Drank 5 or more alcoholic drinks at one occasion in past month	20	14
Drank 60 or more alcoholic drinks in past month	4	3
Drove vehicle after consumption of alcohol in past month	3	2
Rode with a drinking driver in past month	6	4
Overweight	23	26
Unchecked cholesterol with 5 years	27	35
Unchecked blood pressure within 2 years	5	6
No influenza vaccine in past year (over 65 years)	50	50
Never had pneumonia vaccine (over 65 years)	78	73
No health insurance	9	13
Never had mammogram and breast exam (women 40 and over)	21	27
Did not have recent mammogram and breast exam (woman 50 and over)	33	40
Never had a digital rectal exam in past year (age 40 and over)	48	60
Never had proctoscopic exam (over 50 years)	64	63
Never had pap smear test (women with an intact cervix)	8	6

1993 BRFSS Highlights

Risk Factors:

Seat Belt Use

- Forty four percent of Massachusetts residents over age 18 do not use seat belts most or all of the time when riding in a car. Men under age 35 and residents with a high school education or less were more likely to ride unbuckled. *Massachusetts ranked 2nd worst among BRFSS states in the prevalence of regular seat belt use.*

Current Cigarette Smoking

- Twenty-one percent of adults were current cigarette smokers. Smokers were more likely to be residents with less than a college education, or residents with mid- and lower- household incomes (under $35,000). *Massachusetts ranked near the middle of BRFSS states in the prevalence of current cigarette smoking.*

Former and Relapse Smokers

- Among residents over age 18 who had ever smoked, 60% had quit smoking by 1993. Most of these former smokers were likely to be older adults (aged 45+), have higher household incomes, or more than 16 years of education. Among current smokers, 60% had tried unsuccessfully to quit.

Binge Drinking

- Twenty percent of the Massachusetts population over age 18 reported consuming 5 or more alcoholic drinks on a single occasion within the past month. Nearly two-thirds (66%) of young men (ages 18-24) reported "binge" drinking. *Massachusetts ranked 3rd worst among BRFSS states in the prevalence of reported binge drinking.*

Chronic Drinking

- Overall, 4% of adults reported having consumed 60 or more alcoholic drinks within the past month. Nine percent of male residents reported chronic drinking. Chronic drinkers were more likely to be male, under age 35, and have at least a high school education. *Massachusetts ranked 6th worst among BRFSS states in the prevalence of reported chronic drinking.*

Driving After Drinking

- Three percent of all residents over age 18 and 5% of male residents over age 18 reported driving after perhaps having too much to drink. Men between the ages of 18 and 24 years were most likely to report driving after drinking. Six percent of residents reported that they rode with a drinking driver. *Massachusetts ranked near the middle of all BRFSS states in the prevalence of reported driving after perhaps having had too much to drink.*

Overweight

- Based on self-reported height and weight measures, 23% of the Massachusetts population was calculated to be above ideal body weight. *Massachusetts ranked near the middle of all the BRFSS states in the prevalence of overweight adults.*

Chronic Conditions and Preventive Health:

Chronic Conditions

- All chronic conditions were more prevalent in adults over age 54. Eight percent of these adults reported diabetes, 6.6% reported stroke or cardiovascular disease, 15.8% reported heart disease, 9.1% reported chronic lung conditions, 9.2% reported cancer, 39.4% reported asthma. Arthritis was the only condition more prevalent among younger adults--12.7% of 18-34 year olds reported arthritis.

Cholesterol Screening

- The majority of Massachusetts adults had their cholesterol checked within the past five years. However, 27% still reported not having a recent blood cholesterol check. *Massachusetts ranked the best out of all the BRFSS states in the prevalence of recent blood cholesterol checks.*

Blood Pressure Screening

- The vast majority of residents (95%) had their blood pressure checked within the past 2 years. *Massachusetts ranked near the middle of all BRFSS states in the prevalence of unchecked blood pressure levels.*

Routine Care and Vaccinations

- 73% of Massachusetts adults had a routine checkup in the past year. 22% of residents had a pneumonia vaccination and 50% of adults 65 years and older had a flu shot. *Massachusetts ranked near the middle of all the BRFSS states in the prevalence of influenza vaccinations and 8th worst in the prevalence of pneumonia vaccinations.*

Health Care Access

- Nine percent of the Massachusetts population over age 18 reported having no health care plan of any kind. Among young adults (ages 18-34), 15% were uninsured. Almost half of uninsured residents reported not seeking necessary health care due to cost. *However, Massachusetts did better than most states, ranking 3rd best among all BRFSS states in the prevalence of adults reporting any kind of health insurance.*

Cancer Screening and Detection:

Breast Cancer Screening

- Sixty percent of women between the ages of 40-64 received the recommended breast cancer screening. However, 1 out of 2 older women (ages 65+) did not receive mammography and breast exam screening as recommended by the American Cancer Society. *Massachusetts ranked 7th best of all the BRFSS states in the prevalence of women age 40 and older who had ever had both a breast physical exam and a mammogram, and ranked 4th best among all the BRFSS states in the prevalence of women age 50 and older who had a breast physical exam and a mammogram within the past 2 years.*

Cervical Cancer Screening

- Ninety-two percent of women reported ever having a pap smear test and 84% had a pap smear within the past 3 years. However, one third of women 65 years and older did not have a pap smear test within 3 years. *Massachusetts ranked near the middle of all the BRFSS states in the prevalence of women who had ever had a pap smear.*

Colo-Rectal Cancer Screening

- Among residents 40 and older, 29% have received a proctoscopic exam and 79% have received a digital rectal exam. *Massachusetts had the highest prevalence of all BRFSS states in the prevalence of digital rectal exams and ranked near the middle in the prevalence of proctoscopic exams.*

HIV/AIDS Counseling and Testing:

- Fifty nine percent of residents age 18-64 who received an HIV/AIDS test reported that they did not receive any counseling when obtaining the results of their test. 25.5% reported receiving the test at a primary doctors's office and 26.9% were tested at a hospital or emergency room.

Introduction

A significant proportion of adults in the Commonwealth report that they engage in health behaviors that place them at an increased, but potentially avoidable, risk for chronic diseases and unintentional injuries. The goal of primary disease prevention programs is to reduce premature death from injuries and chronic diseases by reducing behaviors such as smoking, excessive alcohol use, sedentary lifestyle, and poor eating habits known to be associated with chronic disease, as well as by promoting the use of screening exams for early detection of cancer, hypertension, and diabetes. Such programs benefit from access to standardized, periodic measures of risk behaviors among specific sub-populations in order to monitor the change in these behaviors over time.

The Behavioral Risk Factor Surveillance System (BRFSS) is a national health survey designed to examine health behaviors linked to risk for developing chronic diseases among adults. In 1986 the Massachusetts Department of Public Health, in cooperation with the Centers for Disease Control and Prevention (CDC), began participation in the BRFSS.[1] The purpose of the BRFSS is to provide state-level prevalence data on health-related behaviors and attitudes in an ongoing effort to plan and develop health promotion and disease prevention programs. In 1993, 49 states and the District of Columbia participated in the BRFSS.

The primary purpose of this report is to monitor Massachusetts' progress toward achieving the Healthy People 2000 national health objectives[2]. Secondarily, this report summarizes the 1993 data and updates previous BRFSS data published by the Massachusetts Department of Public Health.[3,4]

The BRFSS is the only ongoing source of state-level data which addresses many of the key modifiable risks to health. Data from this report will be used by public health program planners to develop and target programs to the appropriate groups and establish baselines to monitor progress of health promotion activities. Data may also be used by researchers interested in the prevalence and change over time in chronic disease risk factors such as cigarette smoking, overweight, seat belt use, mammography and Pap smear screening. In other states, BRFSS data have been used to support change in legislation regarding seat belt and tobacco smoking regulations.

The complex patterns of behaviors, as they vary by age, gender, and educational level, demonstrate the need for collecting, analyzing, and disseminating risk factor data, such as these, as part of the overall public health effort. Our attempts to improve public health and motivate healthy behavior changes will be more effective as we become better informed about which individuals are most at risk and how behaviors change over time.

Individuals seeking additional information on these data or requesting special analysis of the data may contact the Chronic Disease Surveillance Program at the Massachusetts Department of Public Health at 617-727-2735.

Methods

Massachusetts BRFSS data were collected using a standardized telephone questionnaire. A stratified random-digit dial telephone protocol identified eligible households. One adult (18 years or older) from each eligible household was randomly selected to participate in the survey. A copy of the entire 1993 BRFSS questionnaire is provided in Appendix I.

In addition to the core sample of participants described above, an over-sample of Blacks and Hispanics was conducted. Households were screened for minority residents and one adult in the household was randomly selected to participate in the survey.

Data are weighted by the number of adults and the number of telephone numbers in the household. This adjusts for the problems of sampling and selection bias inherent in telephone surveys. Data are further weighted to adjust the distribution of the sample data so that it reflects the total population in Massachusetts. (See Appendix II for details of the weighting methodology). The 1992 Massachusetts population counts shown in Table 2 are derived from the "modified" 1990 census data and used to weight the BRFSS data. If the data were not weighted, projections could not be made from the sample to the general population.

Sample Description

In 1993, 1,857 Massachusetts residents participated in the BRFSS. Table 2 compares the age, sex, and race/ethnicity characteristics of the respondents with those of the 1992 Massachusetts population.

Overall, the survey population closely reflected the entire Massachusetts population in terms of sex-age and race/ethnicity distributions. However, women 25 - 44 years were slightly over-represented in the survey compared to the state's population. Men 18 - 24 years were slightly under-represented in the survey. Due to the over-sample, Blacks and Hispanics represent a higher proportion of the BRFSS sample than the census population. Summary information of all demographic variables weighted to the Massachusetts 1992 population are provided in Appendix III.

Estimates of risk factor prevalence by race/ethnicity were calculated utilizing the minority over-sample. Risk factor prevalence estimates by ethnicity are also available using combined survey data from 1986-1990.[3]

Table 2.

Comparison of the 1993 BRFSS Sample and the Massachusetts
1992 Population Estimates (18 years and older)
By Age, Sex, and Ethnicity

Characteristic	1993 BRFSS Respondents		1992 Massachusetts Population*	
	Number	Percent	Number	Percent
Men				
18 - 24 years	79	4.3	355,266	7.6
25 - 34 years	199	10.7	545,992	11.7
35 - 44 years	192	10.4	441,002	9.5
45 - 54 years	113	6.1	289,215	6.2
55 - 64 years	88	4.7	241,784	5.2
65 + years	115	6.2	310,375	6.7
Women				
18 - 24 years	111	6.0	361,924	7.8
25 - 34 years	253	13.7	552,658	11.9
35 - 44 years	243	13.1	465,949	10.0
45 - 54 years	155	8.4	306,153	6.5
55 - 64 years	105	5.7	272,295	5.9
65 + years	198	10.7	4843041	10.9
Ethnicity+				
White non-Hispanic	1,409	75.9	4,149,694	89.5
Black non-Hispanic	239	12.9	181,124	3.9
Hispanic	162	8.7	190,111	4.1
Other	41	2.2	116,151	2.5
Total	1,857	100.0	4,655,404	100.0

* Source: U.S. Bureau of the Census, 1990 Modified Age, Race, and Sex (MARS) file
\+ Six respondents with unknown age and six with unknown ethnicity

General Notes

Massachusetts Prevalence: Prevalence estimates reported in the body of the report and in the figures include the minority over-sample conducted in 1992 and 1993. Estimates that are compared to BRFSS national prevalence and Year 2000 objectives only contain the core sample of respondents.

National Prevalence: The 1993 national prevalence, derived from the median prevalence among the 48 participating states and territories, is also provided. This differs from the 'national prevalence' reported in a previous publication[3] which reported the national baseline prevalence from the "Healthy People 2000" report. Where available, Year 2000 Objectives for the general population, as well as for special high risk populations, are presented. Unless otherwise stated, the Year 2000 Objectives were obtained from the "Healthy People 2000" report and have not been further referenced.

Variable Interactions: Many of the demographic variables may be associated with each other; for example, young age with lower and middle income levels. Such potential associations should be taken into consideration when examining these data. It is beyond the scope of this report to completely adjust for all of these inter-relationships, and the reader should be mindful of potential confounding and interactions between variables when interpreting these data. Demographic variables should not be interpreted as causes of risk factors or behaviors, but as easily defined groups to which appropriate health promotion activities may be targeted.

Sample Size: Prevalence estimates for some subgroups are based on small sample sizes. In cases where there were fewer than 50 respondents in a subgroup, or fewer than 5 respondents with a risk factor being analyzed, the prevalence estimates are highly unstable, and inferences from such data should be made cautiously. We include these data for completeness of reporting. An asterisk on the appropriate subgroup bar in the figure indicates when small numbers exist. Generally, subgroups with small numbers have been combined to produce more meaningful and stable estimates. As recommended by the CDC, prevalence estimates are reported as whole percents unless the denominator is greater than 500.

Self-Reported Data: The BRFSS relies on self-reported behaviors, without confirmation by medical records or observation of actual behaviors. Prevalence estimates may be biased if respondents under-report selected risk behaviors or over-report positive health behaviors. A recent study suggests there may be significant over-reporting of seat belt use.[5] Also, the wording of sensitive questions, such as driving after having "had perhaps too much too drink" can have a different meaning to different individuals. The importance and magnitude of self-reporting biases as they vary by health behavior or between subgroups has not been addressed in this report. Prevalence estimates obtained using the BRFSS methodology should be compared with caution to estimates of prevalence for risk factors obtained by personal interview, medical examination, medical chart review, or non-population based studies.

Telephone Survey: Data collected by a random digit dial telephone methodology may produce an over- or under-representation of certain subgroups of the population as a result of the sampling method and/or the participation rate. The sample population, therefore, may not reflect the actual population. In order to correct for any selection bias, the data are weighted to the 1992 Massachusetts census counts by age, sex, and race.

Risk Factors

Seat Belt Use

In 1993, motor vehicle crashes were the leading cause of premature death of Massachusetts residents between the ages of 15 to 24 years.[6] Regular use of lap and shoulder belts are at least 45% effective in preventing fatalities and serious injuries.[7] Massachusetts has had a child seat belt law since 1987 which requires children 12 and under to be properly secured in a safety belt or child safety seat. In 1993, Massachusetts enacted a mandatory seat belt law requiring adult belt usage.

Regular Seat Belt Use - Always or almost always use a seat belt when driving or riding in a car.

Regular Use of Child Safety Seat - Always or almost always use a seat belt/child seat for children 12 years and under.

Usage over time:

Despite laws requiring belt use, self-reported use of always or nearly always wearing a seat belt has decreased slightly since the 1986 high of 66% to 57% in 1993. Child belt use however, appears to be high, with almost 83% reporting always using restraint for children 12 and under. Use of "proper" restraint, as defined above, was not specified in the questionnaire. (See Appendix IV for CDC's estimates of 95% confidence intervals for the annual prevalence.)

Who's at risk in 1993:

- At all ages, men used seat belts less regularly than women with an overall prevalence of 50% for men and 61% for women.
- Only 32% of young men (aged 18-24) regularly wore seat belts. However, 64% of men 35-44 regularly wore seat belts.
- Black non-Hispanic men and women were less likely to wear belts regularly than White non-Hispanics or Hispanics.
- 86% of residents with children under 5 years old reported using child safety seats regularly.

Year 2000 Objective:

	Year 2000 Target Prev.	Mass. 1993 Prevalence+	BRFSS 1993 National Prev.
• Whole population	85%*	56%	79%

* Year 2000 prevalence data are not directly comparable as they are computed from direct observation of traffic and include use by infants and children.
+ Core sample only.

Figure 1

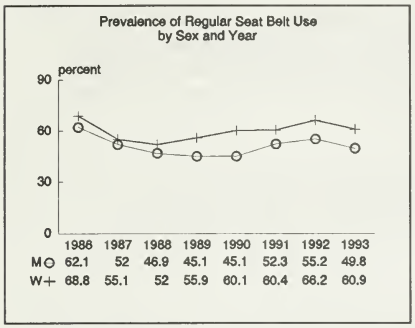


Figure 2

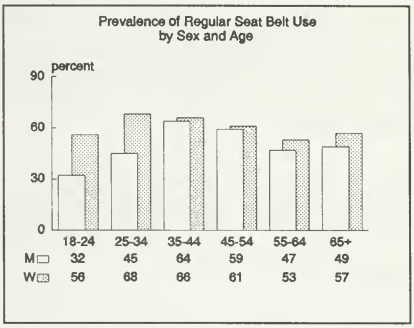


Figure 3

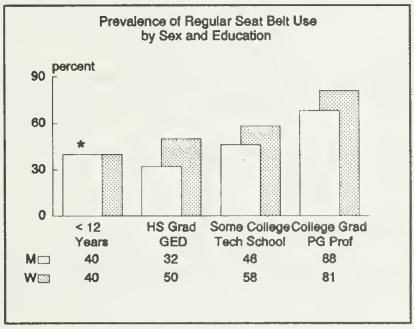


Figure 4

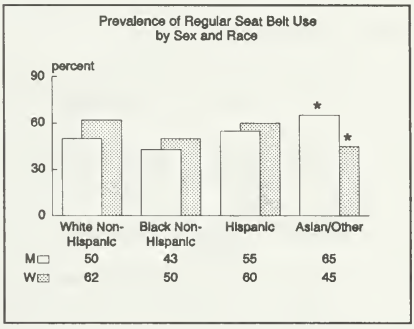
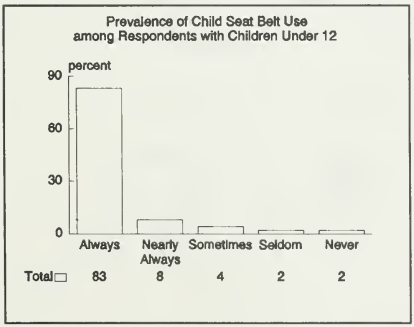


Figure 5



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Current Cigarette Smoking

Cigarette smoking is the leading cause of preventable death and disease in Massachusetts, responsible for one fifth of all deaths to residents age 35 and over in 1988.[8] Smoking is a major risk factor for diseases of the heart and lung cancer, and increases the risk of miscarriages, premature birth and prenatal death. In 1993, Massachusetts began a major campaign to discourage youth smoking and increase quitting.

Current Smoker - Smoked at least 100 cigarettes in lifetime and is regularly smoking now.

Usage over time:

In 1993 the prevalence of current smoking was 21% for both men and women. This represents a 26% decline in smoking prevalence from 27% in 1986 to 20% in 1993. (See Appendix IV for CDC's estimates of 95% confidence intervals for the annual prevalence.)

Who's at risk in 1993:

- 25% of young women and men (ages 18 - 34) were current smokers. Almost a quarter (24%) of women of reproductive age (ages 18 - 44) were current smokers.
- Approximately a third of respondents with a high school education or less were smokers (31% for men and 28% for women).
- 27% of low income respondents were current smokers.
- 30% of black non-Hispanic men were current smokers compared to 21% of white non-Hispanic men and 21% of Hispanic men.

Year 2000 Objectives:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Whole population	15%+	21%*	22%*
• Adults with high school education or less	20%+	28%*	not available
• Women ages 18-44 yrs	12%	24%	not available
• Young adults ages 20-24 years	15%	25%	not available

[1] Core sample only.
* aged 18 years and older
+ aged 20 years and older

Figure 6

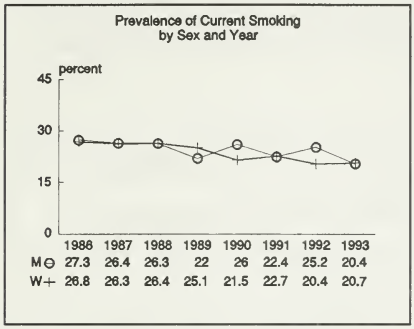
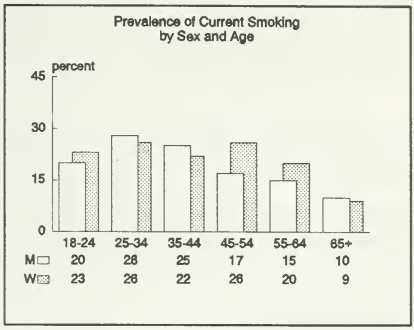


Figure 7



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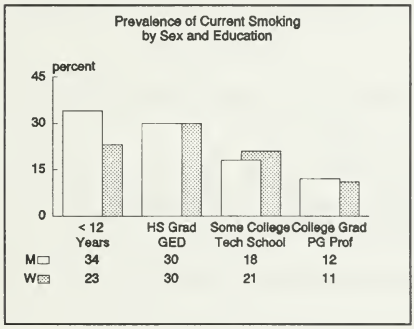


Figure 9

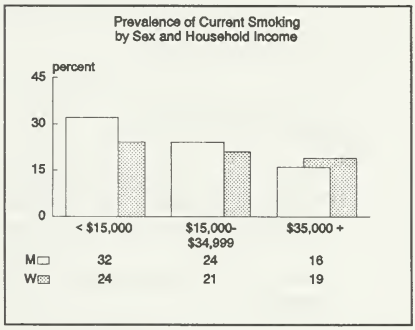


Figure 10

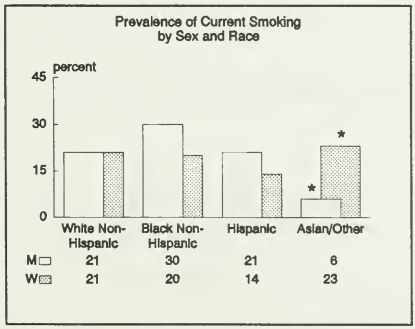
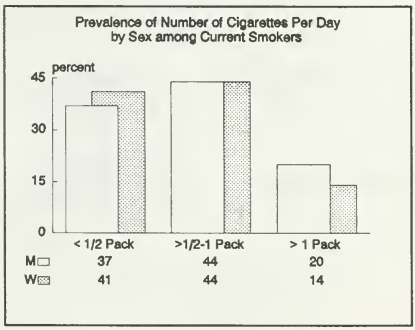


Figure 11



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Former and Relapsed Smoking

Benefits of quitting smoking include reduction in risk for coronary heart disease and possibly for lung cancer risks, particularly when smoking is ceased at younger ages.[9] Massachusetts is measuring the success of smoking cessation programs by monitoring changes in the prevalence of former smoking within the population over time.

Former Smoker - Smoked at least 100 cigarettes in lifetime, but is not currently smoking.

Relapsed Smoker - Smoked at least 100 cigarettes in lifetime, is currently smoking and quit smoking for 1 day or longer in the past year.

Changes over time:

The prevalence of former smoking increased about 14% among men and women since 1986. Men tended to report quitting more often than women over time. Men also reported more relapse smoking.

Who successfully quit in 1993:

- Among residents who ever smoked, 60% reported that they are former smokers (62% for men, 57% for women).
- The prevalence of former smoking increased with age among men with 86% of ever smokers having quit by the age of 65. The female prevalence of former smoking also increased with age, with 76% of women having quit by age 65.
- Residents with advanced education and higher incomes were more likely to have quit smoking.

Who tried unsuccessfully to quit in 1993:

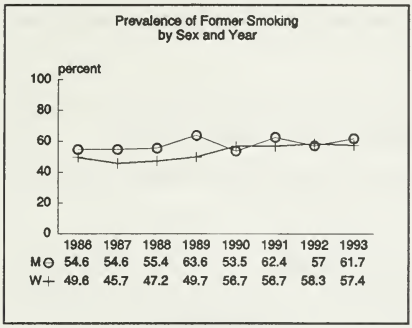
- 60% of all current smokers had relapsed after quitting smoking for at least 1 day within the past year (67% for men, 54% for women).
- Young people (79% of men, 59% of women 18-34) relapsed after having tried to quit smoking.

Year 2000 Objective:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Whole population - quit for at least 1 day	50%	54%	not available

[1] Core sample only.

Figure 12



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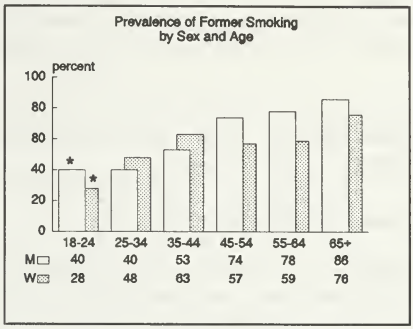

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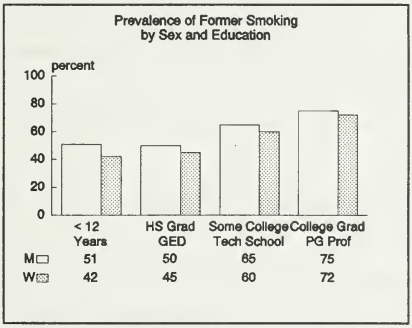

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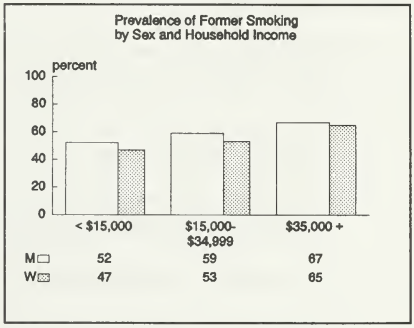

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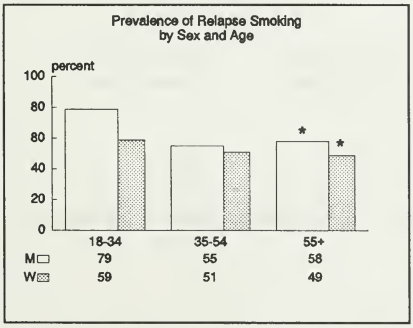
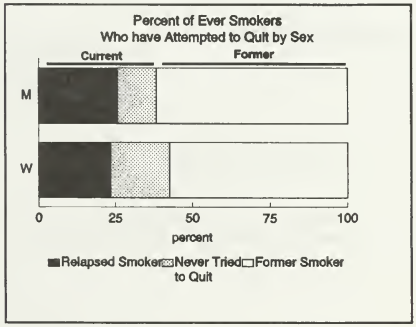


Figure 17



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Binge Drinking

Adverse medical and social consequences can arise from single episodes of excessive drinking. A pattern of heavy drinking on single occasions or within a short period of time is an indicator of "alcohol abuse" and can result in fatal and non-fatal injuries.

Binge drinking - Having had 5 or more drinks on a single occasion at least once in the past month.

Changes over time:

The prevalence of self-reported binge drinking has essentially remained unchanged since 1986. Binge drinking rates among men have remained 2 to 3 times that of women. In 1993, the overall prevalence was 22% with more men (29%) than women (11%) reporting binge drinking within the past month. (See Appendix IV for CDC's estimates of 95% confidence intervals for the annual prevalence.)

Who's at risk in 1993:

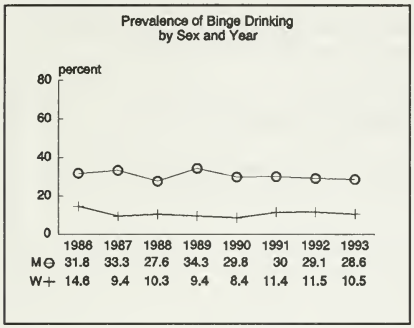
- 27% of young adult women (aged 18-24) reported binge drinking within the previous month. Binge drinking decreased with increasing age among women.
- Nearly two-thirds (66%) of young adult men (aged 18-24) and over a third of men ages 25-34 reported binge drinking.
- Men with less than a high school education were less likely (15%) to engage in binge drinking compared to men with more education.
- The prevalence of binge drinking was highest among upper-income men (34%).
- There was little disparity in the prevalence of drinking among women by education, income level, or race/ethnicity.

Year 2000 Objective:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Whole population	*	20%	14%

* No specific objectives have been set on alcohol consumption. Rather, objectives call for reductions in alcohol-related mortality, primarily traffic fatalities and cirrhosis.
[1] Core sample only.

Figure 18



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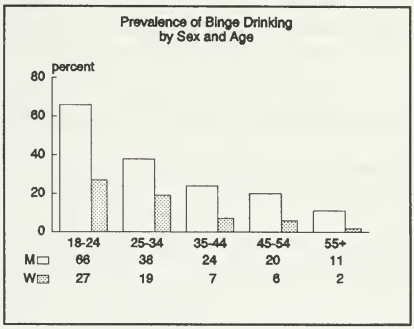

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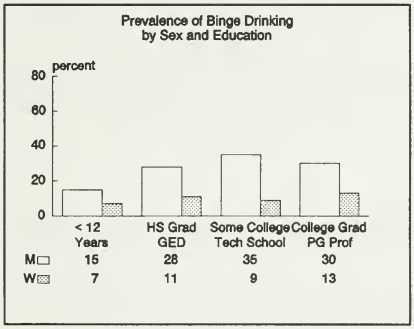

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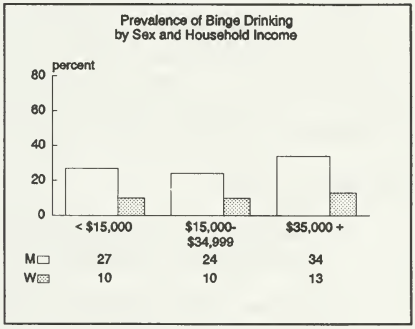

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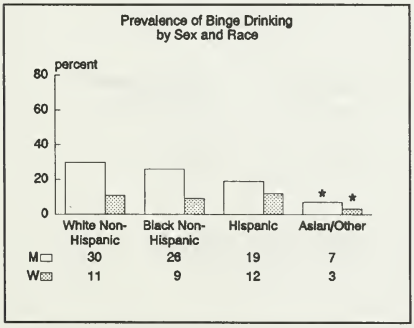


* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Chronic Drinking and Driving after Drinking

Chronic patterns of heavy drinking are an indication of "alcohol dependence" and can lead to serious adverse health and social outcomes. Driving after drinking remains a significant problem in the U.S., with 50 - 55% of all fatal traffic accidents involving a drinking driver.[10]

Chronic Drinking - Had 60 or more alcoholic drinks within the past month.

Driving After Drinking - Drove at least once after having had "perhaps too much to drink" within the past month.

Rode with a Drinker - Rode with someone who had "perhaps too much to drink" within the past month.

Changes over time:

Prevalence estimates of self-reported chronic drinking and driving after drinking were very low (less than 5%) among women and have remained relatively unchanged over the past 8 years. In contrast, prevalence estimates of chronic drinking and driving after drinking were much higher among men, but have decreased steadily. There was a 53% relative drop among men for chronic drinking from 18.4% in 1986 to 8.6% in 1993 and a 42% drop in driving after drinking from 7.9% in 1986 to 4.6% in 1993. (See Appendix IV for CDC's estimates of 95% confidence intervals for the annual prevalence.)

Who's at risk in 1993:

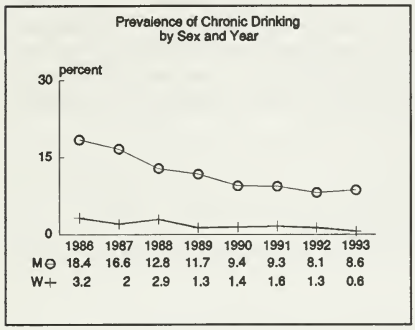
- Young men (ages 18-24) were more likely to engage in chronic drinking (19%) and driving after drinking (13%) than older men.
- Men with at least a high school education were more likely (11%) to be chronic drinkers than men with less education.
- Young men (28%) and women (11%) were more likely to ride with someone who had been drinking than older respondents.

Year 2000 Objectives:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Whole population - chronic drinking	*	5.6%	3.4%
• Whole population - driving after drinking	*	2.8%	2.5%

* No specific objectives have been set on alcohol consumption. Rather, objectives call for reductions in alcohol-related mortality, primarily traffic fatalities and cirrhosis.
[1] Core sample only.

Figure 23



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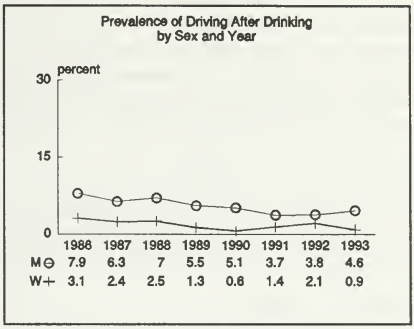


Figure 25

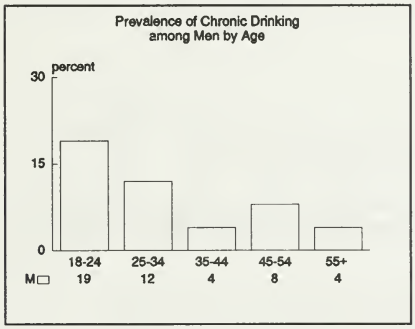


Figure 26

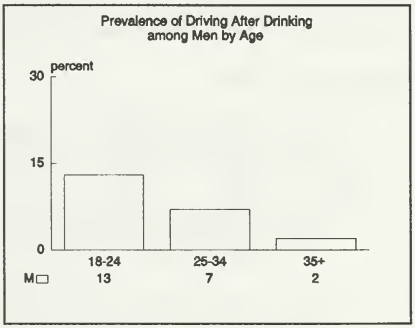


Figure 27

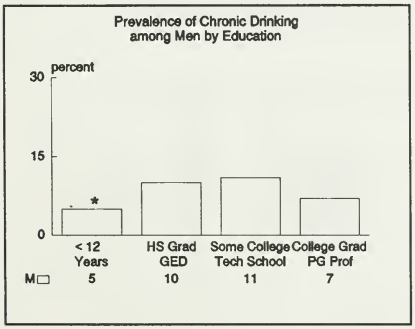
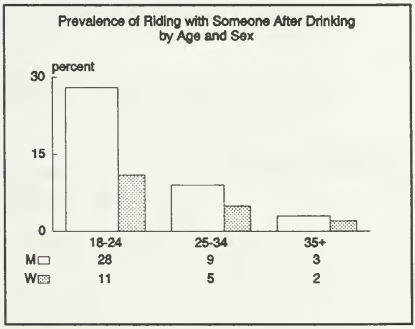


Figure 28



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Overweight - Age 20 or over

Obesity (excess body fatness) is associated with increased risk for hypertension, non-insulin dependent diabetes and selected cancers.[11] Prevention of obesity and weight reduction among the overweight are components of many chronic disease prevention programs. Overweight, a term describing excess body weight for height, is often measured by Body Mass Index (BMI). The BMI values used below to categorize individuals as overweight are nearly equivalent to 120% of ideal weight based on the 1959 Metropolitan Height/Weight tables for ideal weight for height.

Overweight - Body Mass Index (computed from self-reported height and weight) of at least 27.8 kg/m^2 (men) or 27.3 kg/m^2 (women) among residents age 20 or over.

Changes over time:

Based on self-reported height and weight measures, the prevalence of overweight women residents has remained relatively unchanged over the past 8 years and has slightly increased among men. Overall, men have been consistently more overweight than women. (See Appendix IV for CDC's estimates of 95% confidence intervals for the annual prevalence.)

Who's at risk in 1993:

- Men were more likely to be overweight than women regardless of their age, education, or income. (Women may be more likely to under report their weight).
- The prevalence of overweight adults increased steadily with advancing age until middle age, after which it decreased for men. Middle aged men (aged 45-64) were the most likely to be overweight compared to men of other ages.
- Forty percent of all men with less than a high school education were overweight compared to 25% of men with more education. Less educated women were more likely to be overweight than those with a college education.
- Women and men with the lowest level of household income were more likely to be overweight.
- Black non-Hispanic women were more likely to be overweight (36%) than black non-Hispanic men (29%).

Year 2000 Objective:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Overweight adults age 20 or over	20%	23%	26%

[1] Core sample only.

Figure 29

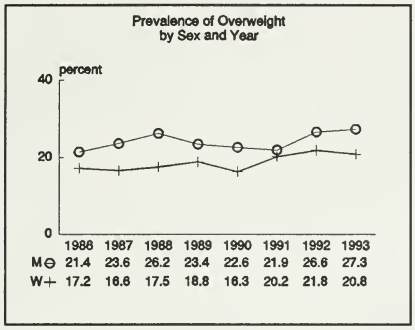


Figure 30

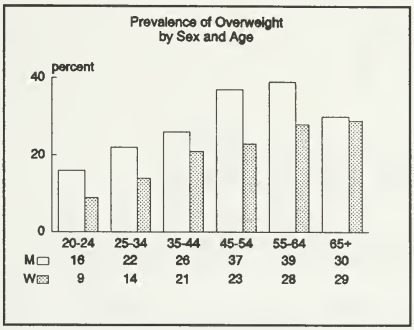


Figure 31

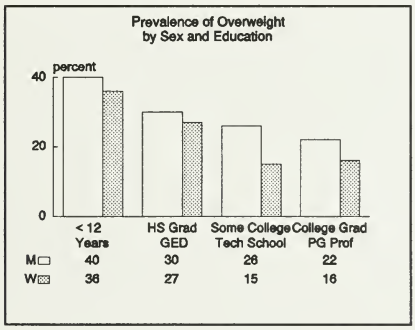


Figure 32

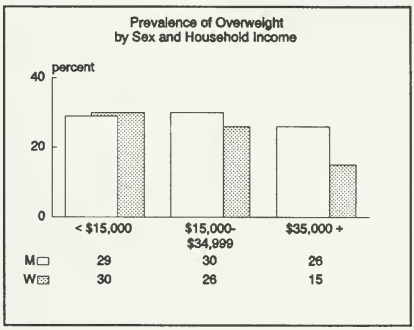
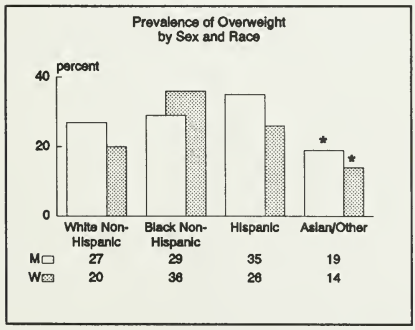


Figure 33



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Chronic Conditions and Preventive Health

Chronic Conditions

Nearly 70% of all deaths in the United States are now attributed to chronic diseases such as heart disease, cancer, stroke, diabetes, and chronic obstructive pulmonary disease. These diseases, which also cause substantial morbidity and disability, primarily affect older people. Prevalence of chronic conditions is expected to increase as the older population continues to grow.

Chronic Diseases - Ever told by a doctor or health professional that one has any of the following: diabetes, arthritis, heart disease, chronic bronchitis or COPD, cancer (excluding benign skin cancer), or asthma.

Changes over time:

Questions concerning diabetes have been asked since 1986. Questions on heart disease, chronic bronchitis, arthritis, asthma, and cancer (excluding benign skin cancer) were initiated in 1992. Self-reporting of disease conditions may be under-reported as a result of the survey's assumption that respondents are aware of their condition.

Who's at risk in 1993:

- The prevalence of diabetes increased dramatically with age from 1% among those 18-34 years old to 8% among respondents 55 years old and older.
- The self-reported prevalence of arthritis decreased from 13% among younger respondents (18-34) to 6% among those 55 years old and older.
- Men (7%) reported having been told they have heart disease more often than women (5%). Increased age (55+) raise the prevalence dramatically for all respondents (20% for men and 13% for women).
- Young women 18-24 reported having more chronic bronchitis (5%) than young men (2%).
- Women of all ages (6%) were more likely to report having been told they had cancer (excluding benign skin cancer) than men (2%).
- Asthma was reported more widely by women, with a dramatic increase among those over age 55.

Year 2000 Objective:

Whole population -	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Diabetes	2.5%	4.0%	4.5%

[1] Core sample only.

No specific objectives have been set for prevention of other chronic conditions.

Figure 34

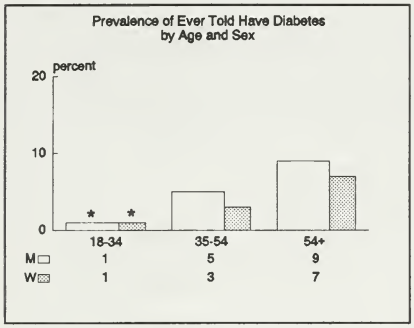
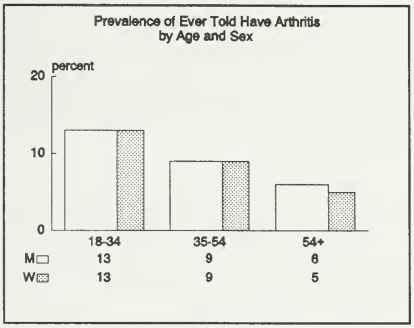


Figure 35



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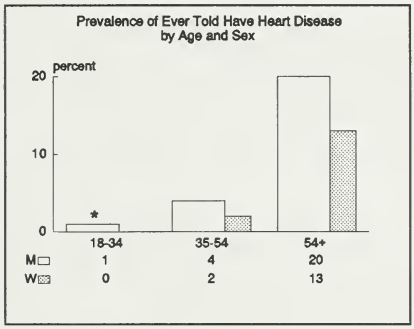

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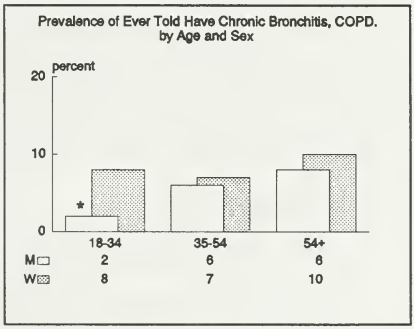

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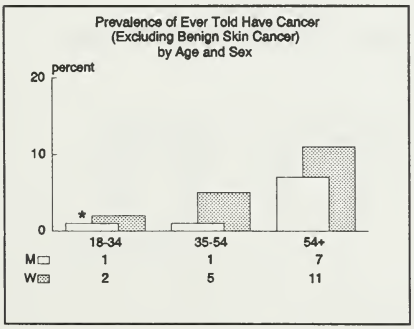
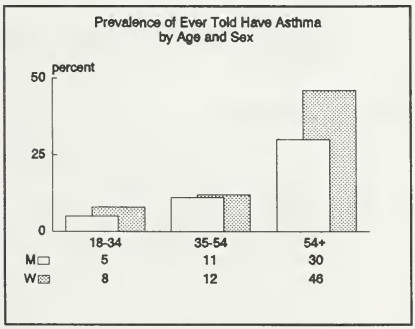


Figure 39



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Unchecked Cholesterol & High Cholesterol

Reducing high cholesterol levels is an important component of Massachusetts' prevention program efforts to lower the risk of heart disease. It is estimated that each 1% reduction in blood cholesterol level results in a 2% reduction in the risk for heart disease.[12] As a first step, individuals at risk for heart disease must be screened for elevated blood cholesterol levels. One current program, the Massachusetts Cholesterol Challenge, identifies individuals throughout the Commonwealth with elevated cholesterol levels and educates both residents and health care professionals about risk reduction strategies.

Unchecked Cholesterol - Reported not having blood cholesterol checked within the past 5 years.

High Cholesterol - Reported having been told by a doctor or other health professional that blood cholesterol level was high.

Changes over time:

Since 1987, when questions on cholesterol screening were initiated, there has been a steady decline in the percent of residents who have not had their blood cholesterol levels checked within the past five years. This reduction has been similar for men and women and represents a 44% relative decline from 44.3% in 1987 to 25% in 1993. Concurrently, the prevalence of high cholesterol tripled in Massachusetts from 1987 to 1993, most likely due in part to the increase in screening and detection. (See Appendix IV for CDC's estimate of 95% confidence interval for the 1993 prevalence.)

Who wasn't screened in 1993:

- Over 40% of young adults (ages 18-24) had unchecked blood cholesterol levels.
- Over one third of adults 45 years and older reported having high cholesterol.
- White non-Hispanic residents were more likely to report high cholesterol and less likely to report unchecked cholesterol.
- Men of every race/ethnic group were more likely to report unchecked cholesterol than women.

Year 2000 Objective:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Whole population - cholesterol checked within 5 years	75%	73%	65%

[1] Core sample only.

Figure 40

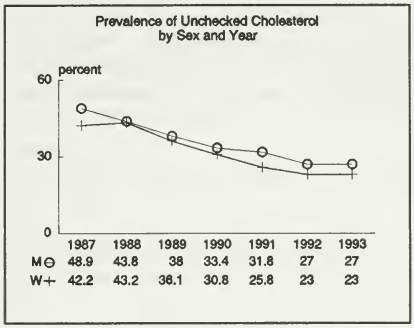


Figure 41

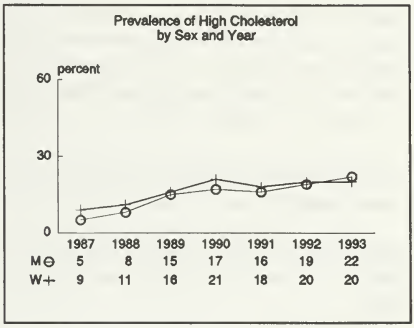


Figure 42

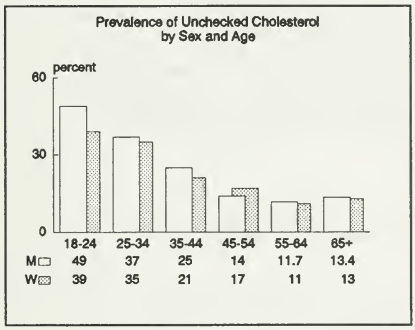


Figure 43

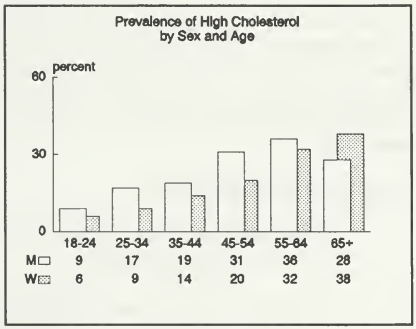


Figure 44

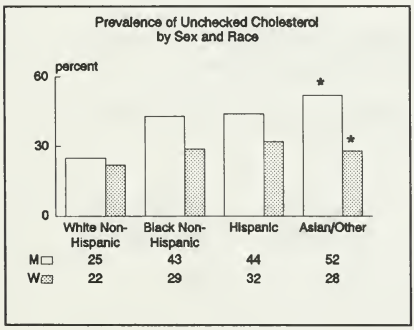
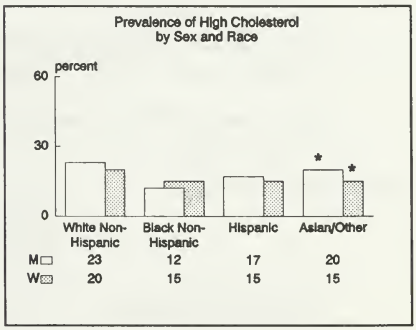


Figure 45



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Unchecked Blood Pressure & High Blood Pressure

High blood pressure (or hypertension) is associated with increased risk for stroke, kidney failure and coronary heart disease. Blood pressure tends to increase with age and can be affected by weight gain, physical inactivity, and, to a lesser extent, diet. Blood pressure should be checked periodically, and individuals with high levels (greater than 140/90 mm Hg) recorded on more than one occasion, should be referred for treatment which can range from behavior modification to pharmacologic intervention.

Unchecked Blood Pressure - Reported not having blood pressure checked by a doctor, nurse or other health professional within the past 2 years.

High Blood Pressure - Reported having been told by a doctor, nurse or other health professional that blood pressure was high and was told on more than one occasion that blood pressure was high.

Changes over time:

Questions regarding hypertension history have been continually asked since 1986, but questions on the frequency of blood pressure screening were not asked every year. Since 1991, the proportion of residents who had not had their blood pressure checked within the past 2 years has remained at 5%. The prevalence of high blood pressure has not changed dramatically since 1986. (See Appendix IV for CDC's estimates of 95% confidence intervals for the annual prevalence.)

Who wasn't screened in 1993:

- Almost 8% of men under 45 and almost 10% of men 65 years old and older had unchecked blood pressures.
- White non-Hispanic and black non-Hispanic men were more likely to have unchecked blood pressure than their female counterparts.

Who reported high blood pressure in 1993:

- Over a quarter of adults and age 45 or over reported high blood pressure. Among women 65 years and older, 35% reported having high blood pressure.
- There was little difference among race/ethnic groups in prevalence of reported high blood pressure.

Year 2000 Objective:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Whole population - blood pressure checked within 2 years	90%*	95%	94%

* Prevalence includes adults who have had blood pressure checked within 2 years AND can state whether blood pressure was normal or high.
[1] Core sample only.

Figure 46

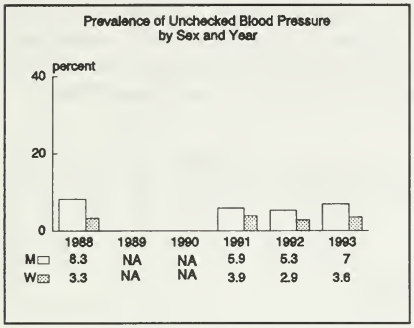


Figure 47

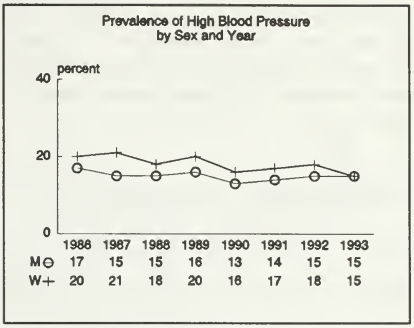


Figure 48

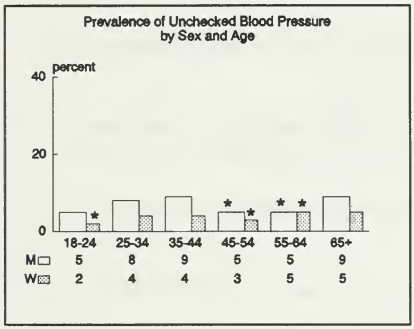


Figure 49

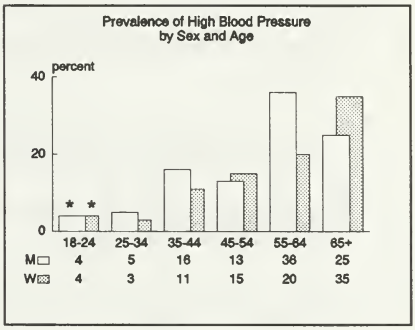


Figure 50

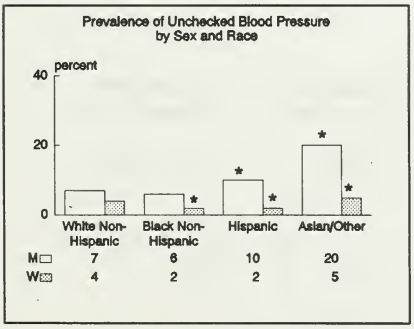
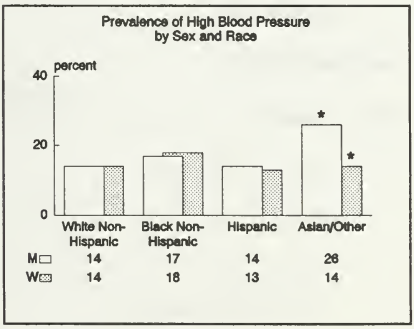


Figure 51



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Routine Care and Vaccinations

Pneumonia and influenza are the fourth leading cause of death among Massachusetts adults age 65 and older. Routine health care and vaccination coverage are very important for maintaining the health of children and adults alike. Year 2000 objectives emphasize the importance of "a specific source of ongoing primary care for coordination of ...preventive and episodic health care."

Routine Checkup - Had a routine checkup in the past year.

Flu Shot - Had a flu shot in the past year.

Pneumonia Vaccination - Ever had a pneumonia vaccination.

Who's at risk in 1993:

- Men and women ages 25-44 were the least likely to have a routine checkup in the past year.
- Thirty-seven percent of Hispanic men, 35% of black non-Hispanic men, and 34% of white non-Hispanic men reported not having a routine checkup in the past year.
- Half of all women 65 and older and nearly half of all men (47%) reported having had a flu shot in the past year.
- More women (23%) than men (18%) 65 years old and older reported ever having a pneumonia vaccination.
- Race was not associated with the prevalence of ever receiving a pneumonia vaccination.

Year 2000 Objective:

Whole population -	**Year 2000 Target Prev.**	**Mass. 1993 Prevalence[1]**	**BRFSS 1993 National Prev.**
• Routine Checkup	*	73%	not available
• Flu Shot (age 65+)	*	50%	50%
• Pneumonia Vaccination (age 65+)	*	22%	27%

* None specifically set.
[1] Core sample only.

Figure 52

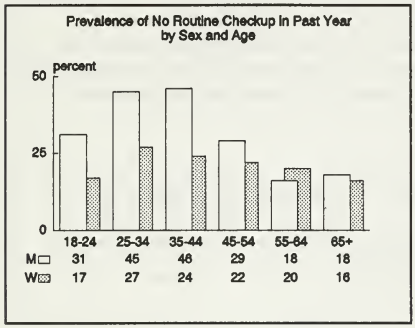

Prevalence of No Routine Checkup in Past Year
by Sex and Age
percent
50
25
0
18-24 25-34 35-44 45-54 55-64 65+
M 31 45 46 29 18 18
W 17 27 24 22 20 16

Figure 53

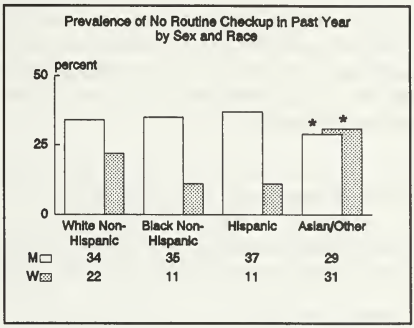


Figure 54

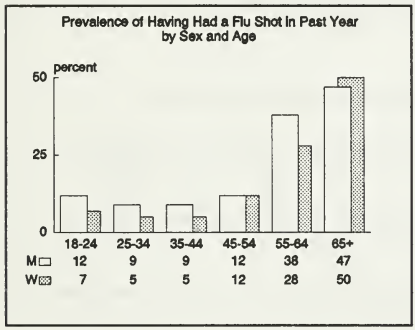

Prevalence of Having Had a Flu Shot in Past Year
by Sex and Age
percent
50
25
0
18-24 25-34 35-44 45-54 55-64 65+
M 12 9 9 12 38 47
W 7 5 5 12 28 50

Figure 55

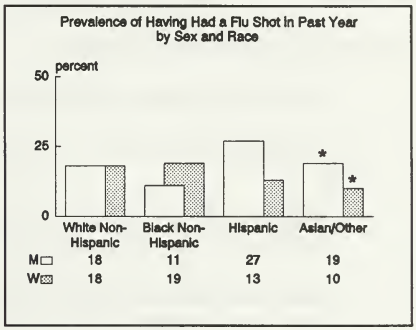


Figure 56

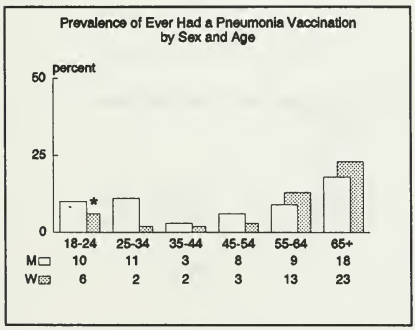
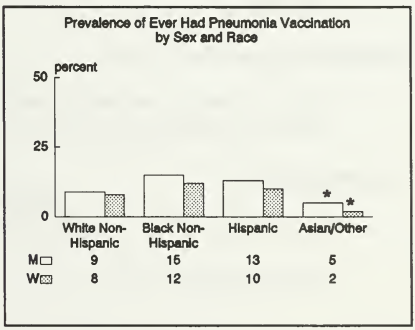


Figure 57



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Health Care Access

An important Year 2000 objective is to "improve financing and delivery of clinical preventive services so that virtually no American has a financial barrier to receiving, at a minimum, the screening, counseling, and immunization services recommended by the U.S. Preventive Services Task Force."[2] Individuals without medical insurance and even some individuals with insurance may not receive health care due to the cost of care. In addition, the existence of insurance coverage does not guarantee adequate preventive health care.

Medically Uninsured - Reported not having any kind of health care insurance (including government plans).

Not Seeking Necessary Care Due to Cost - Responded affirmatively to "Was there a time during the last 12 months when you needed to see a doctor, but could not due to cost?"

Changes over time:

Questions on medical insurance coverage were initiated in 1991. Since 1991, the overall prevalence has remained at 9%. (See Appendix IV for CDC's estimate of 95% confidence interval.)

Who did not have health care coverage:

- 15% of Massachusetts residents ages 18-24 reported having no health insurance.
- Young men (under age 35) were more likely to be uninsured (18%) than young women (13%).
- Residents with the lowest level of household income were more likely to be uninsured (25% for men and 14% for women).
- Black non-Hispanic and Hispanic residents were more likely to be uninsured than white non-Hispanic residents.
- Of residents with no health care coverage, 43% reported not being covered for more than two years.

Who didn't seek care due to cost:

- 49% of uninsured residents felt unable to seek necessary care due to medical costs (48% for women and 51% for men).

Year 2000 Objective:

	Year 2000 Target Prev.	Mass. 1993 Insured Prev.[1]	BRFSS 1993 Nat. Ins. Prev.
• Any kind of health plan	95%*	91%	87%

* Obj. #21.3: "Individuals who have a specific source of ongoing primary care for coordination of their preventative and episodic health care."

[1] Core Sample only.

Figure 58

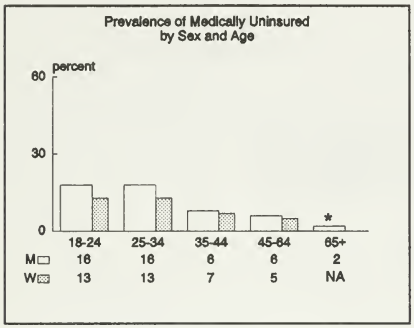


Figure 59

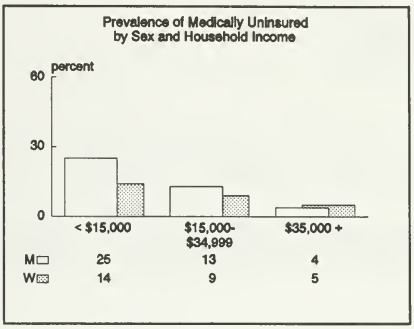


Figure 60

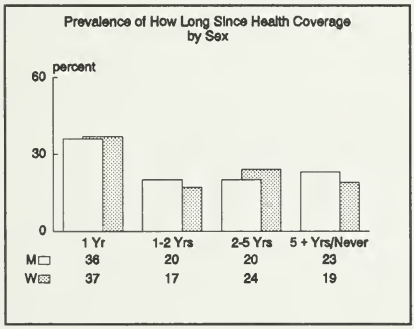


Figure 61

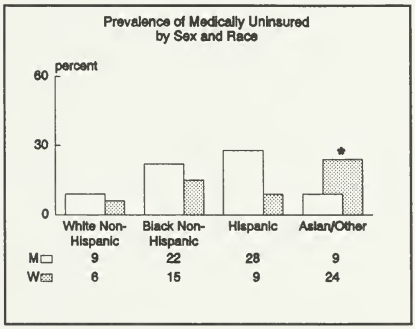
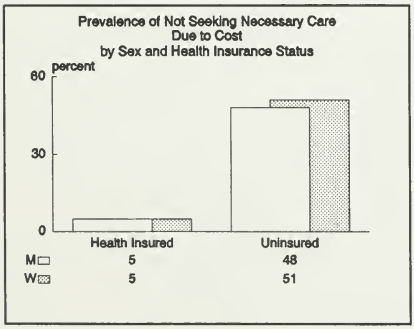


Figure 62



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Cancer Screening and Detection

Breast Cancer Screening

Breast cancer is the second leading cause of cancer deaths among Massachusetts women.[6] Since many of the risk factors for breast cancer (advanced age, positive family history, etc.) are unalterable, a primary goal of breast health programs is early detection of breast cancer through the use of screening examinations. The American Cancer Society recommends that women ages 20-39 years have a clinical breast examination at least every 3 years. Women age 40 and older should have a clinical breast examination annually. In addition, women should have their first screening mammogram by age 40, women 40-49 years should have a mammogram at least biannually, and women age 50 and over, annually.[13]

Clinical Breast Examination:

Clinical Breast Examination - Reported ever having a clinical breast exam by a doctor or a trained clinical practitioner.

Changes over time among women age 20 and older:

Prevalence data on clinical breast examinations was first collected in 1990. The overall prevalence has remained at about 90% among women age 40 and older.

Who wasn't screened in 1993:

- Women under 65 years old were more likely to report ever having a clinical breast exam than those over 65.
- White non-Hispanic women were more likely to report a clinical breast exam (93%) than black non-Hispanic women (86%) or Hispanic women (84%).
- Prevalence of reported clinical breast exam increased with increasing education and household income.
- 75% of Massachusetts women age 20 and over who ever had a clinical breast exam, had one within the past year.

Figure 63

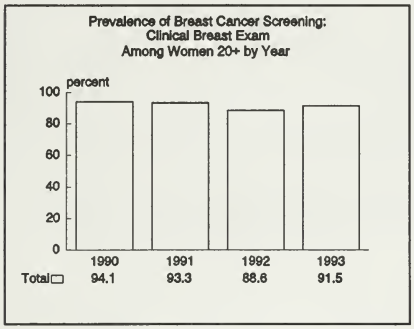


Figure 64

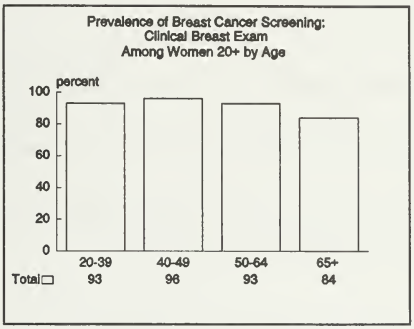


Figure 65

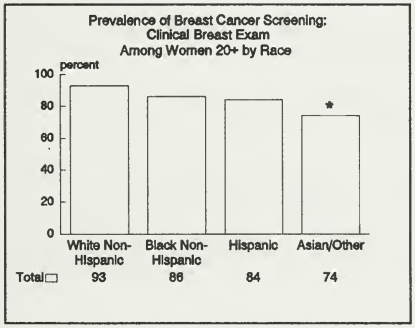


Figure 66

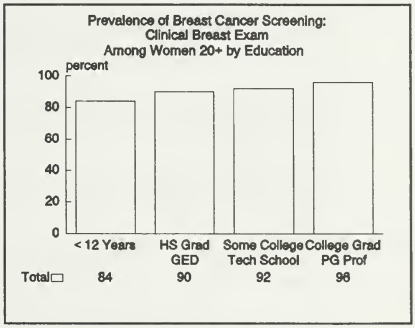


Figure 67

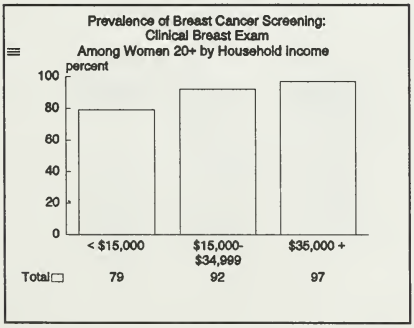
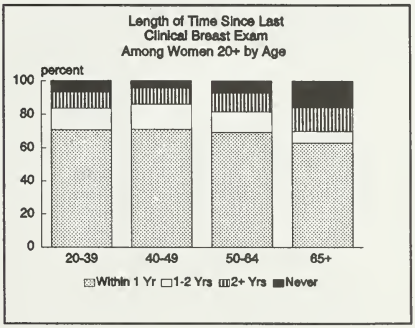


Figure 68



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Mammography Screening:

Mammography - Reported ever having a mammogram.

Changes over time among women age 40 and older:

The prevalence of ever having a mammogram among Massachusetts women age 40 and older increased 17% - from 71% in 1989 to 84% in 1993. (See Appendix IV for CDC's estimates of 95% confidence intervals for the annual prevalence.)

Who wasn't screened in 1993:

- Based solely on an analysis by age, all women over age 40 were about equally likely to ever have had a mammogram.
- Women with less than a high school education were less likely to report ever having had a mammogram as compared to women with some college education.
- Women ages 50-64 are more likely to report having had a mammogram in the past year (66%) than women 40-49 (54%) or women over 65 (57%).
- Women age 65 and over were slightly more likely to report never having had a mammogram or having one over 2 years ago as compared to younger women.
- 39% of women ages 50-64 did not receive the American Cancer Society recommended breast cancer screening.
- 53% of women 65 years and older did not receive the American Cancer Society recommended breast cancer screening.

Year 2000 Objectives:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Ever Received Clinical Breast Exam & Mammogram, Age 40+	80%	79%	73%
• Received Clinical Breast Exam & Mammogram within 2 years, Age 50+	60%	67%	60%

[1] Core sample only.

Figure 69

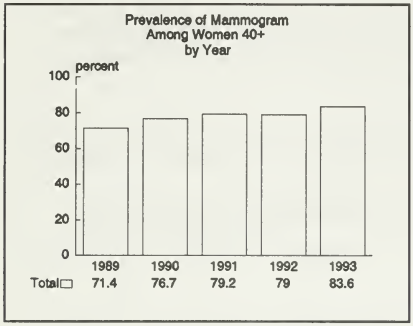


Figure 70

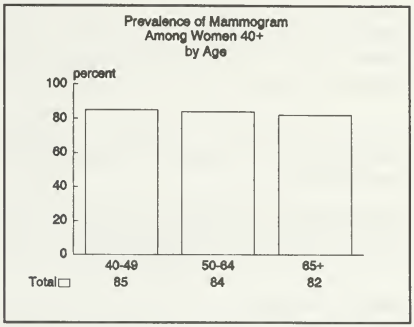


Figure 71

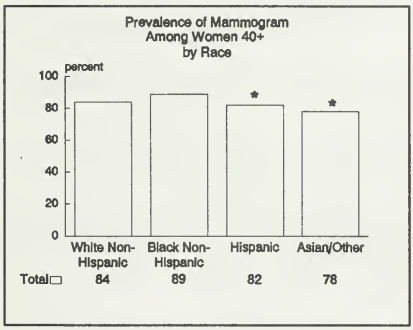


Figure 72

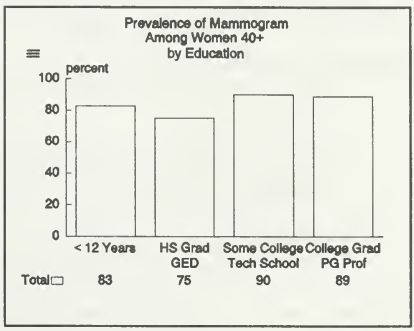


Figure 73

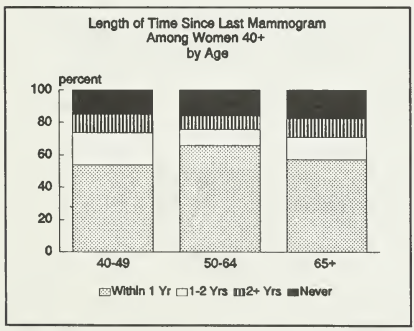
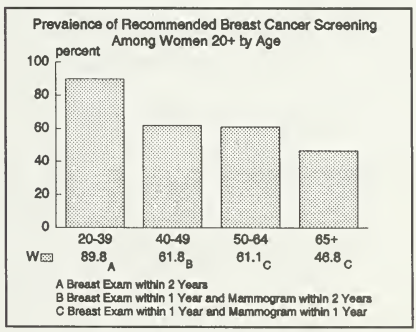


Figure 74



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Cervical Cancer Screening

Indirect evidence indicates that cervical cancer screening at least every 3 years between the ages of 20 and 75 years should decrease the incidence of invasive cervical cancer by 86%.[14] The primary test used to screen for cervical cancer is the Papanicolaou smear (Pap test). The American Cancer Society recommends that women who are 18 years of age or are sexually active at any age have a Pap test annually, until 3 successive negative annual examinations; thereafter, the frequency of testing can be reduced at the discretion of their physician.[13]

Any Pap Test - Ever had a Pap test among women who had heard of a Pap test and had an intact uterine cervix.

Recommended Screening - Had a Pap test within the past 3 years among women who had an intact uterine cervix.

Changes over time:
Questions on cervical cancer screening were initiated in 1991. In 1993 the vast majority of women (92%) in Massachusetts had at least one Pap test in their lifetime and a high percentage (87%) had received the recommended screening. (See Appendix IV for CDC's estimate of 95% confidence interval for the 1993 prevalence.)

Who wasn't screened in 1993:

- Women age 65 and over were more likely to have never had a Pap test (13%) as compared to younger women.
- Hispanic women were slightly more likely not to be screened (15%) than white non-Hispanics (5%) and black non-Hispanics (8%).
- Women with less than a high school education and household income less than $15,000 were most likely to never have had a Pap test (not shown).

Who didn't receive recommended screening in 1993:

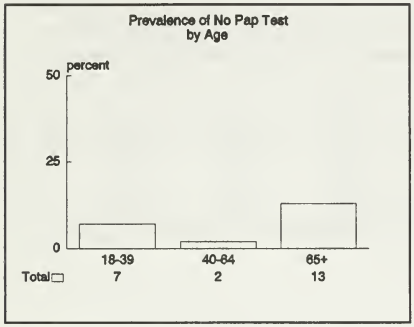
- 34% of women 65 years of age and older and 18% of women age 40 - 64 reported not receiving a Pap test within the past 3 years.
- Women with a high school education or less were more likely not to have been screened within the past 3 years (27%) than women with at least some college education (12%).
- Lower income women were most likely (31%) not to have been screened within the past 3 years.

Year 2000 Objectives:

	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Women - Received Any Pap Test	95%	92%	94%
• Women - Had Pap Test Within Last 3 Years	85%	84%	not available

[1] Core sample only.

Figure 75



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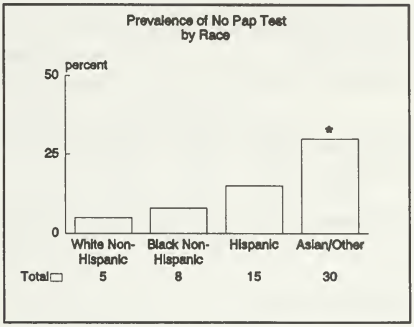

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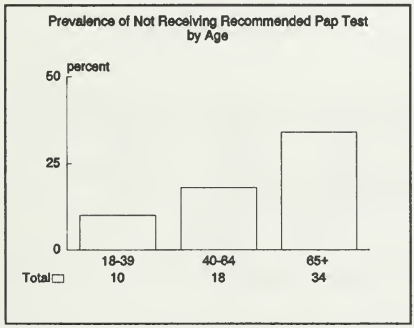

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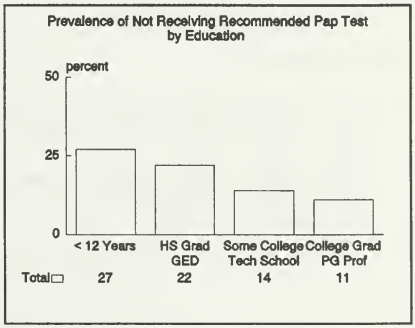

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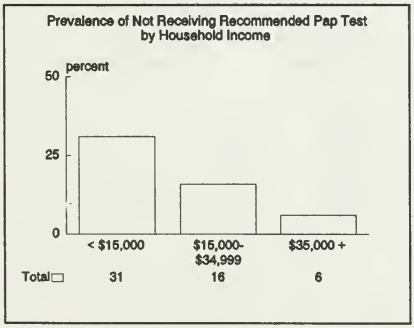
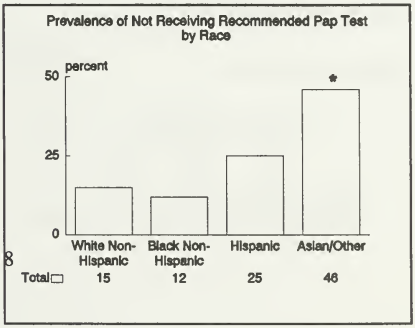


Figure 80



* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Colo-Rectal Cancer Screening

The digital rectal exam (DRE) is a simple and relatively inexpensive tool for detecting not only colo-rectal cancer but also prostate cancer. Proctoscopic examinations are also effective in screening for colo-rectal cancer. The American Cancer Society recommends a screening flexible sigmoidoscopy or proctoscopic examination every 3-5 years beginning at age 50 and a DRE annually after age 40.

Digital Rectal Exam - Ever had a digital rectal examination among respondents age 40 years and older.

Proctoscopic Exam - Ever had a proctoscopic exam among respondents age 40 years and older.

Changes over time:

This was the first year the BRFSS administered questions on colo-rectal cancer screening. 80% of men and 77% of women had ever received a DRE screening. 30% of men and 28% of women had ever received a proctoscopic exam.

Who's at risk in 1993:

- Even though the samples were small, Hispanics appear less likely to report a DRE (60% for women and 71% for men) than white non-Hispanics (78% for women and 83% for men).
- Respondents with household incomes below $15,000 were less likely to receive DRE screening (67%) than those with incomes of $35,000 and above (83%).
- Both men (40%) and women (37%) age 65 years and older were more likely to have proctoscopic screening examinations than their younger counterparts.
- Income, education, and race/ethnicity do not appear to effect the prevalence of receiving proctoscopic screening examinations (not shown).

Year 2000 Objective:

Whole population -	Year 2000 Target Prev.	Mass. 1993 Prevalence[1]	BRFSS 1993 National Prev.
• Digital Rectal Exam in Past Year, Age 50+	40%	52%	40%*
• Proctoscopic Exam in Past 2 Years, Age 50+	40%	36%	37%

[1] Core sample only.
* Age 40+

Figure 81

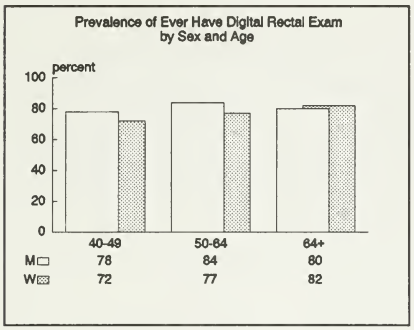
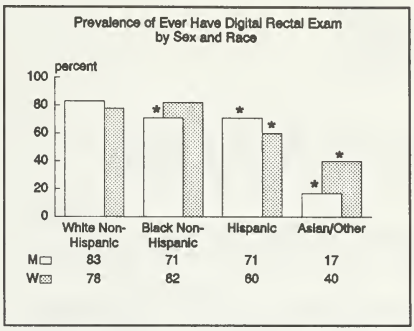


Figure 82



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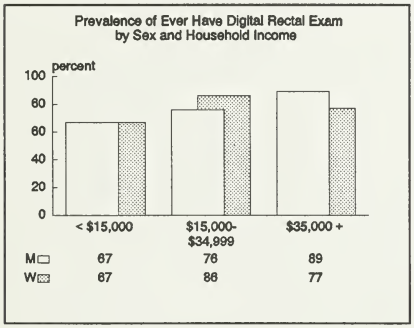

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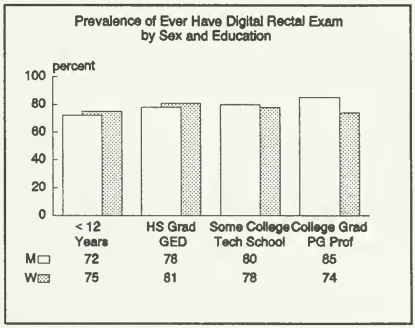
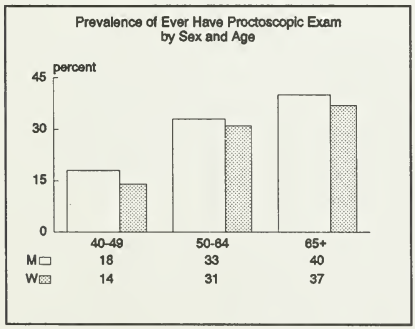


Figure 85



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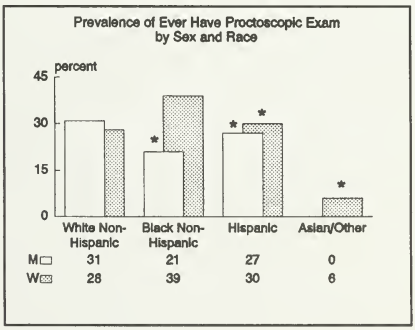


* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

HIV/AIDS Counseling and Testing

HIV/AIDS Counseling and Testing

The Massachusetts Department of Public Health AIDS Bureau funds and monitors a network of HIV/AIDS counseling and testing sites across the state. Over 41,000 tests were performed at these confidential and anonymous testing sites in 1994. This represents 20-30% of HIV antibody tests performed in Massachusetts, with the remainder being provided by private health care providers. Pre- and post-test counseling is an important component of the testing process, providing risk and referral information, helping individuals understand the test results, and developing individualized risk reduction plans.

Received Counseling - Received counseling from a health professional when obtaining results from HIV/AIDS test.

Where Received Test - Reported where received HIV/AIDS test.

Reason for Test - Reported main reason for receiving HIV/AIDS test.

Changes over time:

Questions about receiving counseling, testing site, and reasons for testing were all initiated in 1993. Twenty-five percent of all respondents ages 18-64 reported that they had received a test for the HIV virus (men 30%, women 21%).

Who's at risk in 1993:

- Fifty-nine percent of all respondents who had an HIV/AIDS test reported that they did not receive counseling when obtaining HIV test results, while 31% reported having received counseling with test results.

- Women 18-24 (47%) were more likely than men of the same age group (37%) to report not receiving counseling with HIV test results; whereas men 35 and over (71%) were more likely to report not receiving counseling than women 35 and over (59%).

- Men (21%) were less likely than women (32%) to report receiving an HIV test from a private physician. Men (22%) were also less likely than women (33%) to receive a test from a hospital/emergency room. "Other" testing sites included AIDS clinic, community health clinic, industry clinic, insurance company clinic, military site, health department, and home.

- The main reason respondents wanted to be tested was "to see if they were infected" (women 33%; men 22%). "Other" reasons included hospitalization, health insurance, employment, marriage license, military, immigration, occupational exposure, and illness.

- Younger respondents 18-24 (36%) were more likely to be tested "to see if they were infected" than their older counter parts (ages 25-34 (27%), 35 and older, (23%)).

Figure 87

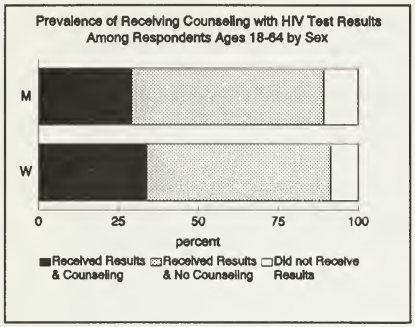


Figure 88

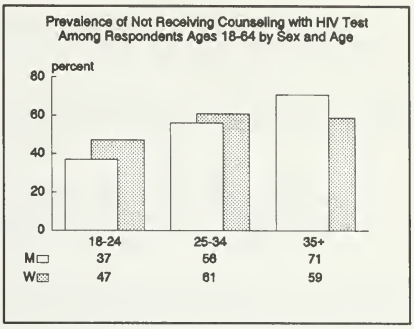


Figure 89

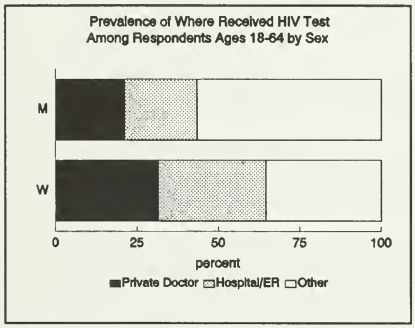
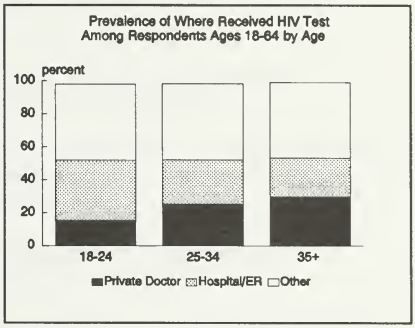


Figure 90



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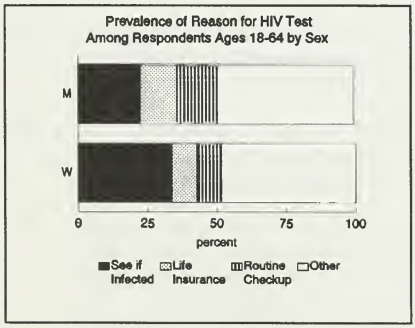

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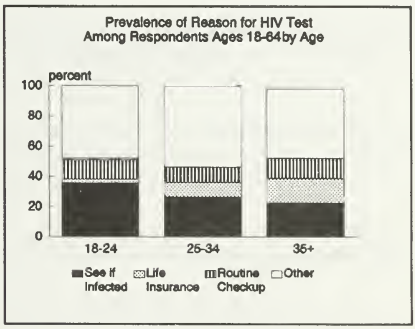

* Estimated prevalence for this subgroup based on sparse data (fewer then 50 respondents overall and/or 5 respondents with the risk behavior).

Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

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Appendix I

1993 Massachusetts Risk Factor Surveillance System Questionnaire

Introduction: The Massachusetts Department of Public Health is doing a study of the health practices of Massachusetts residents. This is one of the main health studies which is conducted in the state. We would like to ask some questions about the things people do which may affect their health. The interview takes just a short time. I want to assure you that all of the information you give is completely confidential, and that none of it will be released in any way that would permit identification of you or your household. Your participation, of course, is voluntary. If I ask any question you don't want to answer, just tell me to skip to the next one.

Section A: HEALTH STATUS

1. First of all, would you say that, in general, your health is--
   1. Excellent
   2. Very good
   3. Good
   4. Fair
   5. Poor
   7. DON'T KNOW
   9. REFUSED

2. Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?
   NUMBER OF DAYS
   77. DON'T KNOW/NOT SURE
   99. REFUSED

3. Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?
   NUMBER OF DAYS
   77. DON'T KNOW/NOT SURE
   99. REFUSED

4. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?
   NUMBER OF DAYS
   77. DON'T KNOW/NOT SURE
   99. REFUSED

Section B: HEALTH CARE ACCESS

5. Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs (health maintenance organizations), or government plans such as Medicare?
   1. Yes (skip to q7)
   2. No
   7. DON'T KNOW/NOT SURE (SKIP TO Q7)
   9. REFUSED

6. About how long has it been since you had health care coverage?
   1. Within the past 6 months (1 to 6 months ago)
   2. Within the past year (7 to 12 months ago)
   3. Within the past 2 years (1 to 2 years ago)
   4. Within the past 5 years (2 to 5 years ago)
   5. 5 or more years ago
   7. DON'T KNOW/NOT SURE
   8. NEVER
   9. REFUSED

7. Was there a time during the last 12 months when you needed to see a doctor, but could not because of the cost?
   1. Yes
   2. No
   7. DON'T KNOW/NOT SURE
   9. REFUSED

8. Is there one particular clinic, health center, doctor's office, or other place that you usually go to if you are sick or need advice about your health?
   1. Yes, one particular place
   2. Yes, more than one particular place
   3. No
   7. DON'T KNOW/NOT SURE
   9. REFUSED

9. About how long has it been since you last visited a doctor for a routine checkup?
   1. Within the past year (1 to 12 months ago)
   2. Within the past 2 years (1 to 2 years ago)
   3. Within the past 5 years (2 to 5 years ago)
   4. 5 or more years ago
   7. DON'T KNOW/NOT SURE
   8. NEVER
   9. REFUSED

9a. During the past year, how many times did you visit a medical doctor? (Include all types of doctors, such as dermatologists, psychiatrists, and ophthalmologists, as well as general practitioners and osteopaths. Also include care from a nurse practitioner or anyone working with or for a medical doctor. Include visits to a doctor's office or to a hospital outpatient clinic. Do not include overnight stays at a hospital, or telephone conversations.)

   NUMBER OF TIMES
   777. DK/NOT SURE
   888. NONE
   999. REFUSED

Section C: HYPERTENSION AWARENESS

10. About how long has it been since you last had your blood pressure taken by a doctor, nurse, or other health professional?
   1. Within the past 6 months (1 to 6 months ago)
   2. Within the past year (7 to 12 months ago)
   3. Within the past 2 years (1 to 2 years ago)
   4. Within the past 5 years (2 to 5 years ago)
   5. 5 or more years ago
   7. DON'T KNOW/NOT SURE
   8. NEVER
   9. REFUSED

11. Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?
   1. Yes
   2. No (skip to q13)
   7. DON'T KNOW/NOT SURE
   9. REFUSED

12. Have you been told on more than one occasion that your blood pressure was high, or have you been told this only once?
   1. More than once
   2. Only once
   7. DON'T KNOW/NOT SURE
   9. REFUSED

Section D: CHOLESTEROL AWARENESS

13. Blood cholesterol is a fatty substance found in the blood. Have you ever had your blood cholesterol checked?
   1. Yes
   2. No (Skip to q16)
   7. DON'T KNOW/NOT SURE
   9. REFUSED

14. About how long has it been since you last had your blood cholesterol checked?
   1. Within the past year (1 to 12 months ago)
   2. Within the past 2 years (1 to 2 years ago)
   3. Within the past 5 years (2 to 5 years ago)
   4. 5 or more years ago
   7. DON'T KNOW/NOT SURE
   8. NEVER
   9. REFUSED

15. Have you ever been told by a doctor or other health professional that your blood cholesterol is high?
   1. Yes
   2. No
   7. DON'T KNOW/NOT SURE
   9. REFUSED

Section E: DIABETES

16. Have you ever been told by a doctor that you have diabetes?
   1. Yes
   2. No (skip to q16e) (Code "no" for gestational diabetes)
   7. DON'T KNOW/NOT SURE (skip to q16e)
   9. REFUSED

16a. Have you received education from any of the following on how to care for your diabetes:

	YES	NO	DK	REF
1. a nurse or nurse practitioner	1	0	8	9
2. a nutritionist or dietician	1	0	8	9
3. a diabetes class	1	0	8	9
4. a doctor	1	0	8	9
5. someone else (SPECIFY:_____)	1	0	8	9

16b. Have you been told by a doctor that you have eye disease caused by diabetes, such as retinopathy or maculopathy?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED.

16c. About how long has it been since you last visited an eye doctor and had drops put in your eyes or had them dilated?
1. Within the past year (0 to 12 months ago)
2. Within the past 2 years (13 to 24 months ago)
3. Within the past 5 years (25 to 60 months ago)
4. More than 5 years ago..(61+ months ago)
6. Never
7. DON'T KNOW/NOT SURE
9. REFUSED

16d. About how long has it been since you last had your feet examined for sores or irritation by a health professional?
1. Within the 6 months (0 to 6 months ago)
2. Within the past year (7 to 12 months ago)
3. Within the past 2 years (13 to 24 months ago)
4. More than 2 years ago..(25+ months ago)
6. Never
7. DON'T KNOW/NOT SURE
9. REFUSED

16e. (ASK ALL:) Do you have, or have you had, blood relatives who were diagnosed with diabetes after the age of 30?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

16f. Do you think that diabetes is a serious disease?
1. Yes
2. No
3. Depends (specify:_____)
7. DON'T KNOW/NOT SURE
9. REFUSED

16g. Have you ever been told by a doctor or other health professional that you have any of the following conditions:

	YES	NO	DK	REF
1. Stroke or cerebrovascular disease?	1	2	8	9
2. Heart disease?	1	2	8	9
3. Chronic bronchitis, emphysema, or COPD?	1	2	8	9
4. Cancer of any kind except benign skin cancer?	1	2	8	9
5. Asthma?	1	2	8	9
6. Arthritis?	1	2	8	9

Section F: INJURY CONTROL

17. How often do you use seat belts when you drive or ride in a car? Would you say--
1. Always
2. Nearly always
3. Sometimes
4. Seldom
5. Never
7. DON'T KNOW/NOT SURE
8. NEVER DRIVE OR RIDE IN A CAR
9. REFUSED

18. How many children less than 18 years of age live in your household?

NUMBER OF CHILDREN:
88. NONE (SKIP TO Q2)
99. REFUSED

19. What is the age of the oldest child in your household under the age of 15? (Code less than 1 yr as 01)
AGE OF CHILD:
88. NO CHILDREN UNDER AGE 15 (SKIP TO Q21)
77. DON'T KNOW/NOT SURE
99. REFUSED

20. How often does the oldest child in your household use a seat belt (if oldest child is 5 or older or) a safety seat (if oldest child is 5 or younger) when they ride in a car? Would you say
1. Always
2. Nearly always
3. Sometimes
4. seldom
5. Never
7. DON'T KNOW/NOT SURE
8. NEVER DRIVE OR RIDE IN A CAR
9. REFUSED

21. Can you swim or tread water for 5 minutes in water that is over your head?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

22. Do you have a specific plan for how you would escape from your house or apartment in case of fire?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

Section G: TOBACCO USE

23. Have you smoked at least 100 cigarettes in your entire life? (100 CIGARETTES=5 PACKS)
1. Yes
2. No (skip to q28a)
7. DON'T KNOW/NOT SURE
9. REFUSED

24. Do you smoke cigarettes now?
1. Yes
2. No (skip to q28)
9. REFUSED (SKIP TO Q28a)

25. On the average, about how many cigarettes a day do you now smoke? (1 PACK=20 CIGARETTES)
NUMBER OF CIGARETTES:
77. DON'T KNOW/NOT SURE
88. NEVER SMOKED REGULARLY
99. REFUSED

26. During the past 12 months, have you quit smoking for 1 day or longer?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

27. Would you like to stop smoking?
1. Yes (skip to q28a)
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

28. About how long has it been since you last smoked cigarettes regularly (that is, daily)?
1. Within the past month (0 to 1 month ago)
2. Within the past 3 months (1 to 3 months ago)
3. Within the past 6 months (3 to 6 months ago)
4. Within the past year (6 months to 1 year ago)
5. Within the past 5 years (1 year to 5 years ago)
6. Five or more years ago
7. DON'T KNOW/NOT SURE
8. NEVER SMOKED REGULARLY
9. REFUSED

36. What is your race? Would you say--
1. White
2. Black
3. Asian, Pacific Islander
4. American Indian, Alaska Native
5. Other, specify _____
7. DON'T KNOW/NOT SURE
9. REFUSED

37. Are you of Spanish or Hispanic origin?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

38. Are you--
1. Married
2. Divorced
3. Widowed
4. Separated
5. Never been married
6. Member of an unmarried couple
9. REFUSED

39. What is the highest grade or year of school you completed?
1. Never attended school or kindergarten only
2. Grades 1 through 8 (elementary)
3. Grades 9 through 11 (some high school)
4. Grade 12 or ged (high school graduate)
5. College 1 year to 3 years (some college) or Technical school
6. College 4 years or more (college graduate)
9. REFUSED

40. Are you currently?
1. Employed for wages
2. Self-employed
3. Out of work for more than 1 year
4. Out of work for less than 1 year
5. Homemaker
6. Student
7. Retired
8. Unable to work
9. REFUSED

41. Which of the following categories best describes your annual household income from all sources?
1. Less than $10,000
2. $10,000 to less than $15,000
3. $15,000 to less than $20,000
4. $20,000 to less than $25,000
5. $25,000 to less than $35,000
6. $35,000 to $50,000
7. Over $50,000
8. DON'T KNOW/NOT SURE
9. REFUSED

42. About how much do you weigh without shoes?
1. Weight (in pounds)
777. DON'T KNOW/NOT SURE
999. REFUSED

43. About how tall are you without shoes?
1. Height (in feet/inches)
777. DON'T KNOW/NOT SURE
999. REFUSED

44. What city or town do you live in?

44a. What is your zip code?

45. Do you have more than one telephone number in your household?
1. Yes
2. No
9. REFUSED

28a. (ASK ALL:) Now I'm going to read you a list of places where smoking may or may not be prohibited. For each one, please tell me if you think that smoking should be allowed there without restriction, should be permitted only in designated areas, or should not be allowed at all.

	Allow w/out Restriction	Permit only Desig. Areas	Not allow At all	DK	Ref
1. Restaurants	1	2	3	8	9
2. Hospitals	1	2	3	8	9
3. Indoor work areas	1	2	3	8	9
4. Bars and cocktail lounges	1	2	3	8	9
5. Indoor sporting events	1	2	3	8	9
6. Indoor shopping malls	1	2	3	8	9

28g. Which statement best describes the rules about smoking in your home?
1. no one is allowed to smoke anywhere
2. smoking is allowed in some places or at some times
3. smoking is permitted anywhere
8. DON'T KNOW/NOT SURE
9. REFUSED

28h. Do you think laws restricting the sale of tobacco products to minors have been adequately enforced?
1. Yes
2. No
8. DON'T KNOW/NOT SURE
9. REFUSED

Section H: ALCOHOL CONSUMPTION

29. During the past month, have you had at least one drink of any alcoholic beverage such as beer, wine, wine coolers, or liquor?
1. Yes
2. No (skip to q34)
7. DON'T KNOW/NOT SURE
9. REFUSED

30. During the past month, how many days per week or per month did you drink any alcoholic beverages, on the average?
1. Answer is in days per week
2. Answer is in days per month
777. DON'T KNOW/NOT SURE (SKIP TO Q32)
999. REFUSED

31. A drink is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. On the days when you drank, about how many drinks did you drink on the average?
NUMBER OF DRINKS
77. DON'T KNOW/NOT SURE
99. REFUSED

32. Considering all types of alcoholic beverages, how many times during the past month did you have 5 or more drinks on an occasion?
NUMBER OF TIMES
77. DON'T KNOW/NOT SURE
88. NONE
99. REFUSED

33. During the past month, how many times have you driven when you've had perhaps too much to drink?
NUMBER OF TIMES
77. DON'T KNOW/NOT SURE
88. NONE
99. REFUSED

34. During the past month, how many times have you ridden with a driver who has had perhaps too much to drink?
NUMBER OF TIMES
77. DON'T KNOW/NOT SURE
88. NONE
99. REFUSED

Section I: DEMOGRAPHICS

35. What is your age? (CODE AGE IN YEARS)
7. DON'T KNOW/NOT SURE
9. REFUSED
99. 99+

46. How many residential telephone numbers do you have?
1. Number of telephone numbers
8. 8+
9. DON'T KNOW/REFUSED

47. Indicate sex of respondent
1. Male (skip to q59)
2. Female

Section J: WOMEN'S HEALTH

48. A mammogram is an x-ray of the breast to look for cancer. Have you ever had a mammogram?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

49. How long has it been since you had your last mammogram?
1. Within the past year (1 to 12 months ago)
2. Within the past 2 years (1 to 2 years ago)
3. Within the past 3 years (2 to 3 years ago)
4. Within the past 5 years (3 to 5 years ago)
5. 5 or more years ago
7. DON'T KNOW/NOT SURE
8. NEVER
9. REFUSED

50. Was your last mammogram done as part of a routine checkup, because of a breast problem other than cancer, or because you've already had breast cancer?
1. Routine checkup
2. Breast problem
3. Had breast cancer
7. DON'T KNOW/NOT SURE
9. REFUSED

51. A clinical breast exam is when a doctor, nurse, or other health professional feels the breast for lumps. Have you ever had a clinical breast exam?
1. YES
2. NO
7. DON'T KNOW/NOT SURE
9. REFUSED

52. How long has it been since your last breast exam?
1. Within the past year (1 to 12 months ago)
2. Within the past 2 years (1 to 2 years ago)
3. Within the past 3 years (2 to 3 years ago)
4. Within the past 5 years (3 to 5 years ago)
5. 5 or more years ago
7. DON'T KNOW/NOT SURE
8. NEVER
9. REFUSED

53. Was your last breast exam done as part of a routine checkup, because of a breast problem other than cancer, or because you've already had breast cancer?
1. Routine checkup
2. Breast problem
3. Had breast cancer
7. DON'T KNOW/NOT SURE
9. REFUSED

54. A Pap smear is a test for cancer of the cervix. Have you ever had a Pap smear?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

55. How long has it been since you had your last Pap smear?
1. Within the past year (1 to 12 months ago)
2. Within the past 2 years (1 to 2 years ago)
3. Within the past 3 years (2 to 3 years ago)
4. Within the past 5 years (3 to 5 years ago)
5. 5 or more years ago
7. DON'T KNOW/NOT SURE
8. NEVER
9. REFUSED

56. Was your last Pap smear done as part of a routine exam, or to check a current or previous problem?
1. Routine exam
2. Check problem
3. Other
7. DON'T KNOW/NOT SURE
9. REFUSED

57. Have you had a hysterectomy (that is, an operation to remove the uterus/womb)?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

58. To your knowledge, are you now pregnant?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

Section K: IMMUNIZATIONS

59. During the past 12 months, have you had a flu shot?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

60. Have you ever had a pneumonia vaccination?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

Section L: COLO-RECTAL CANCER SCREENING

61. A digital rectal exam is when a doctor or other health professional inserts a finger in the rectum to check for cancer and other health problems. Have you ever had this exam?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

62. When did you have your last digital rectal exam?
1. One year ago or less (0 to 12 months ago)
2. More than one year ago, but less 2 years ago (13 to 24 months ago)
3. More than 2 years ago, but less 3 years ago (25 to 36 months ago)
4. More than 3 years ago, but less 5 years ago (37 to 60 months ago)
5. More than 5 years ago (61+ months ago)
7. DON'T KNOW/NOT SURE
9. REFUSED

63. A proctoscopic exam is when a tube is inserted in the rectum to check for cancer and other health problems. Have you ever had this exam?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

64. When did you have your last proctoscopic exam?
1. One year ago or less (0 to 12 months ago)
2. More than one year ago, but less 2 years ago (13 to 24 months ago)
3. More than 2 years ago, but less 3 years ago (25 to 36 months ago)
4. More than 3 years ago, but less 5 years ago (37 to 60 months ago)
5. More than 5 years ago (61+ months ago)
7. DON'T KNOW/NOT SURE
9. REFUSED

Section M: AIDS KNOWLEDGE AND TESTING The next few questions are about the national health problem of AIDS. Please remember that your answers are strictly confidential and that you don't have to answer every question if you don't want to.

65. Can you tell by looking at a person if he or she has the AIDS virus?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

66. Would you be willing to work next to or near a person who you know is infected with the AIDS virus?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

67. If you had a child in school, would you allow him or her to be in the same classroom with another child who is infected with the AIDS virus?
1. Yes
2. No
3. DON'T HAVE CHILDREN
7. DON'T KNOW/NOT SURE
9. REFUSED

68. If you had a teenager who was sexually active, would you encourage him or her to use a condom?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

69. Some people use condoms to keep from getting the AIDS virus through sexual activity. How effective do you think a properly used condom is for this purpose? Would you say--
1. Very effective
2. Somewhat effective
3. Not at all effective
4. DON'T KNOW HOW EFFECTIVE
5. DON'T KNOW METHOD
9. REFUSED

70. To your knowledge is there medical treatment available that may help a person who is infected with the AIDS virus live longer?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

71. What are your chances of getting the AIDS virus? Would you say--
1. High
2. Medium
3. Low
4. None
7. DON'T KNOW/NOT SURE
9. REFUSED

72. In the past five years (that is, since 1988), have your chances of getting the AIDS virus increased, decreased, or stayed the same?
1. Increased
2. Decreased
3. Stayed the same
7. DON'T KNOW/NOT SURE
9. REFUSED

73. Except for donating or giving blood, have you ever had your blood tested for the AIDS virus infection?
1. Yes
2. No
7. DON'T KNOW/NOT SURE
9. REFUSED

74. When was your last test?
Record Month and Year
77/77. DON'T KNOW/NOT SURE
99/99. REFUSED

75. What was the main reason you had your last AIDS blood test?
1. For hospitalization or surgical procedure
2. To apply for health insurance
3. To apply for life insurance
4. For employment
5. To apply for a marriage license
6. For military induction or military service
7. For immigration
8. Just to find out if you were infected
9. Because of referral by a doctor
10. Because of referral by the health department
11. Referred by your sex partner
12. Because it was part of a blood donation process
13. For routine check-up
14. Because of occupational exposure
15. Because of illness
87. OTHER (SPECIFY BELOW)
77. DON'T KNOW/NOT SURE
99. REFUSED

76. Where did you have your last blood test for the AIDS virus?
1. Private doctor,hmo
2. Blood bank, plasma center, red cross
3. Health department
4. Aids clinic, counseling, testing site
5. Hospital, emergency room, outpatient clinic
6. Family planning clinic
7. Prenatal clinic
8. Tuberculosis clinic
9. STD clinic
10. Community health clinic
11. Clinic run by employer
12. Insurance company clinic
13. Other public clinic
14. Drug treatment facility
15. Military induction or military service site
16. Immigration site
17. At home, home visit by nurse or health worker
87. Other (specify below)
77. DON'T KNOW/NOT SURE
99. REFUSED

77. If you received the results of your last test, did you receive counseling or talk with a health care professional about how to lower your chances of becoming infected with the AIDS virus or how to avoid passing it on to another person?
1. Yes (received results and was counseled)
2. No (received results and was not counseled)
3. Did not get results
7. DON'T KNOW/NOT SURE
8. REFUSED

CLOSING STATEMENT That's my last question. Thank you very much for your time and cooperation.

Language of the interview
1. English
2. Spanish
3. Portuguese

Appendix II

Procedure for generating weights for adjustment:

1. Compute the raw weights as the number of adults in the household divided by the number of different telephone numbers that will reach the household. (These data were obtained in the interview.)

2. Compute the cluster size adjustments as the expected cluster size divided by the actual cluster size. (Cluster size is only important when performing sampling using the Waksberg sampling technique. Since Massachusetts uses a stratified random digit dial procedure, our cluster size is always 1.)

3. Compute the base weight for each subject as the raw weight times the cluster size adjustment.

4. Define cells based on age/sex/race, such that there are at least 10 subjects in each cell. (See Table 2 on page 8 for cells used in this analysis.) Tabulate statewide population data for each cell.

5. For each cell, compute the post-stratification weight as the state population within that cell divided by the sum of the base weights within the same cell.

6. For each subject, the final weight is calculated as the base weight for that subject times the post-stratification weight for the cell which that subject falls within.

Appendix III

Demographic Summary

Figures 93-100 show the demographic characteristics of the respondents, weighted to reflect the distribution of the 1992 Massachusetts population. The only variable with a notable percentage of records with missing information was annual household income, with 12.5% reporting that they either did not know their household income or declined to answer the question.

Socio-demographic features of the 1993 weighted BRFSS data:

- There was a slight increase in the number of respondents from 1992 (N=1825) to 1993 (1,857) respondents).
- About 44% of the Massachusetts population surveyed is between the ages 25 and 44 years.
- The population of Massachusetts surveyed is predominately white and resides mainly in eastern Massachusetts.
- 56% of the weighted population surveyed is married and nearly 65% are employed.
- The number of unemployed male respondents decreased from 10% in 1991 to 4% in 1993. Unemployed women and homemakers decreased from about 20% in 1991 to 18% in 1993.
- Almost 90% of the weighted population surveyed completed high school or obtained a Graduate Equivalency Diploma (GED); nearly 35% had completed college.
- 16% of those surveyed reported their annual household income as below $15,000, 29% reported incomes between $15,000 and $34,999, and 43% reported incomes in excess of $35,000.

Figure 93

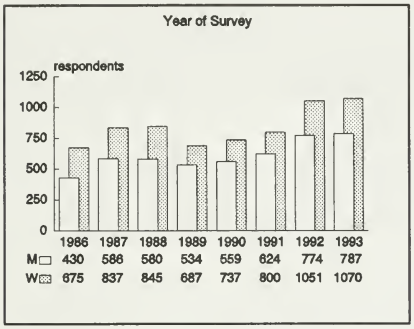


Figure 94

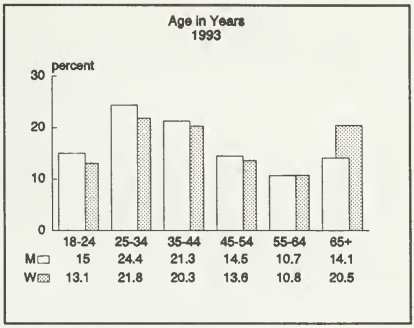


Figure 95

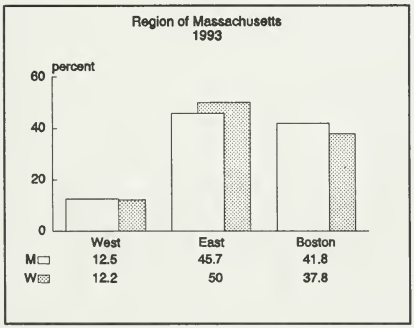
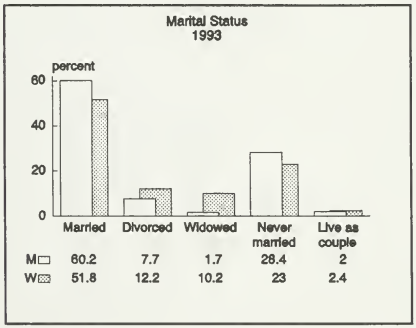


Figure 96



* Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Figure 97

Figure 98

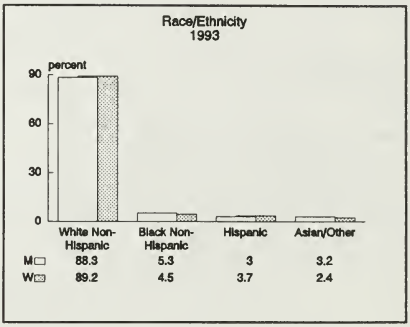


Figure 99

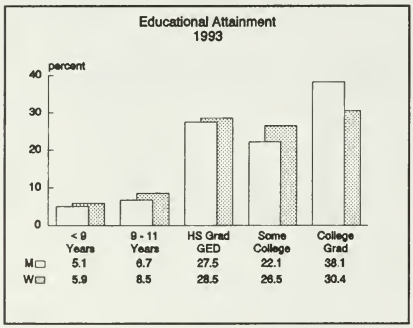
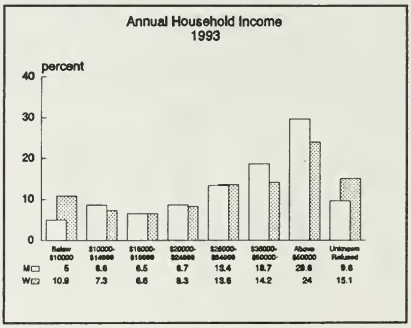


Figure 100



* Source: Massachusetts Department of Public Health, Chronic Disease Surveillance Program, BRFSS, 1993.

Appendix IV

Table 3. provides annual prevalence estimates and 95% confidence intervals for selected risk factors for the **basic sample only** (excluding the minority over-samples performed in 1992 and 1993). These estimates were calculated by the federal Centers for Disease Control and Prevention (CDC), the funding agency and analytic resource for the national BRFSS program. The confidence intervals were calculated using SUDAAN, Software for Survey Data Analysis, developed by the Research Triangle Institute. This package was available beginning in 1987.

The prevalence estimates presented in this table were provided by the CDC. Estimates may differ slightly from those presented in this report due to selection criteria or alternative risk factor definitions. The report includes minority oversample data in 1992 and 1993.

In order to estimate the statistical significance of prevalence changes over time, the 95% confidence intervals may be compared. If two intervals do not overlap, then one may conclude that the associated prevalence estimates are significantly different at $p < .05$ level of significance. For example, one may say that the prevalence of chronic drinking has decreased significantly between 1987 and 1990 because the confidence intervals do not overlap.

Prevalence estimates and confidence intervals not shown in this table may be obtained by contacting the Chronic Disease Surveillance Program, Massachusetts Department of Public Health.

Table 3.

Annual Massachusetts Prevalence Estimates with 95% Confidence Intervals for Selected Risk Factors.

Selected Risk Factors	1987	1988	1989	1990	1991	1992	1993
Seat Belt Non-Use %	45.4	49.6	48.5	46.4	43	38.8	43.9
95% CI	42.4-48.4	46.7-52.5	45.4-51.7	43.3-49.4	39.9-45.6	36.0-41.2	41.2-46.6
Current Smoking %	26.4	26.4	23.6	23.6	23	22.9	20.8
95% CI	23.8-29.0	23.6-29.1	20.9-26.4	21.0-26.2	20.2-24.9	20.5-25.2	18.6-23.2
Binge Drinking %	20.6	18.4	21	18.3	20	20.2	19.8
95% CI	18.1-23.0	15.9-20.9	18.3-23.7	15.9-20.8	17.8-22.3	17.9-22.6	17.5-22.1
Chronic Drinking %	8.8	7.5	6.1	5.1	5.2	4.5	4.5
95% CI	7.0-10.6	5.9-9.1	4.5-7.7	3.8-6.5	3.8-6.5	3.2-5.7	3.2-5.8
Drive After Drinking %	3.8	4.6	3.3	2.7	2.5	3.3	2.8
95% CI	2.9-5.5	3.3-6.0	2.2-4.4	1.8-3.6	1.7-3.3	2.3-4.3	1.8-3.7
No & Irregular Physical Activity+ %	56.3	52.9	54.6	49.6	53	46.2	N/A
95% CI	53.3-59.2	50.0-55.9	51.5-57.7	46.4-52.8	49.8-55.5	43.4-49.1	
Overweight %	19.2	21.4	20.1	18.9	20	23.1	22.9
95% CI	16.9-21.5	18.9-23.8	17.6-22.5	16.5-21.3	18.7-23.4	20.6-25.4	20.6-25.3
Unchecked Cholesterol in 5 Years %	N/A	N/A	N/A	N/A	95	72.6	73.4
95% CI					65.3-70.7	70.1-75.2	71.0-75.9
Checked Blood Pressure in 2 Years %	N/A	N/A	N/A	N/A	95	95.5	94.5
95% CI					93.9-96.4	94.4-96.7	93.3-95.7
No Health Insurance %	N/A	N/A	N/A	N/A	9.3	9.6	8.6
95% CI					7.52-11.8	7.9-11.3	7.0-10.1
Ever Mammography women aged 40+ %	N/A	N/A	N/A	74.4	79.2	79.0	83.6
95% CI				70.3-78.6	74.7-83.6	74.5-83.4	80.2-87.1
Ever Pap Smear %	N/A	N/A	N/A	N/A	92	91.1	92.2
95% CI					89.7-94.3	89.6-94.5	89.8-94.6

Source: Estimates computed by the Centers for Disease Control and Prevention and presented in "1993 BRFSS Summary Prevalence Report".

Massachusetts Behavioral Risk Factor Survey
1993 Summary Report

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